

Naturalist



The Naturalist

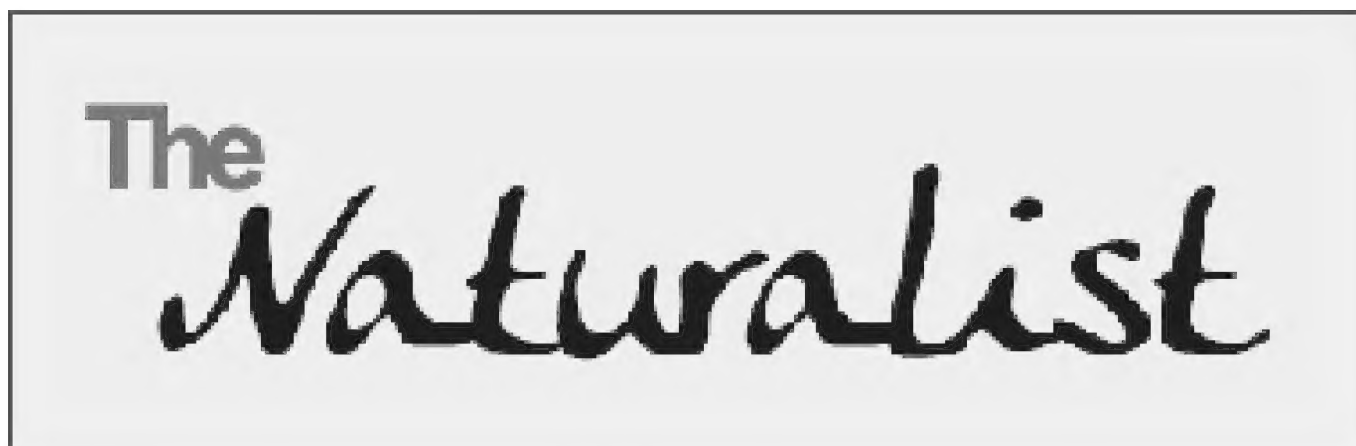
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Front cover: Sawfly *Caliroa cinxia* larvae skeletonising an oak leaf, Allerthorpe Common VC61
Photo : Ian Andrews

Back cover: Kidney Vetch *Anthyllis vulneraria* in profusion near Ainderby Steeple
Photo: Nick Morgan



Editorial

In this edition we feature two articles on terrapins in Yorkshire. These non-native animals have frequently been kept as pets, a fashion that increased with the TV cartoon series *Teenage Mutant Ninja Turtles* in the 1980/90s, and some have, inevitably, found their way into the wild. Colin Howes and John Newton review terrapin records for VCs 62, 63 & 64 while Dick Shillaker and Africa Gómez detail records for VC 61 (the authors would, no doubt, welcome any records from VC 65!). Between them, the two papers illustrate the value of citizen science ('Turtle Tally UK'), digital photography and social media in contemporary collecting and sharing of records. They also discuss the inevitable issues that arise when non-native species find their way into the UK environment.

On a completely different note we would welcome help with the production of *The Naturalist*. If you would like to get involved please email: editor@ynu.org.uk

Terrapins in South-east Yorkshire (VC61)

Richard Shillaker (RS)¹ and Africa Gómez (AG)^{1,2}

¹ Hull Natural History Society

² Department of Biological and Marine Sciences, University of Hull, HU6 7RX

Email: A.Gomez@hull.ac.uk

Introduction

Various terrapin species are widely recorded as living wild throughout the UK (Langton *et al.*, 2011; Allain, 2019; Simpson, 2021). These non-native terrapins were kept as pets but released when they were no longer wanted. In prehistoric times, during several warm episodes in the Pleistocene and early Holocene, the European Pond Terrapin (also called the European Pond Tortoise or European Pond Turtle) *Emys orbicularis* inhabited southern Britain (Stuart, 1979; Sommer *et al.*, 2007). This animal died out as the climate cooled in the middle Holocene as recently as 6,000 years ago and it is now regarded as non-native in the UK.

Currently, the Pond Slider *Trachemys scripta* from central and southern USA is the most frequently recorded terrapin living wild in the UK (Langton *et al.*, 2011.; Simpson, 2021). Two forms or morphs (typically referred to as subspecies) predominate in the UK: the Red-eared Slider/Terrapin *T.s. elegans* and the Yellow-bellied Slider *T. s. scripta*. Although different in their head markings, a recent genetic analysis, including mitochondrial and nuclear markers, detected no genetic differentiation between these morphs, therefore finding that a subspecific status is not merited genetically (Vamberger, *et al.*, 2020). However, for practical conservation purposes Vamberger *et al.* did not propose abandoning the well-established subspecies status of these two morphologically distinct Pond Sliders.

The Red-eared Slider used to be the main pet terrapin traded and released into the wild in the UK (Langton *et al.*, *loc. cit.*). A trade ban on importation of Red-eared Sliders into the EU, introduced in 1997 (Council Regulation (EC) No 338/97), led to trade switching to other terrapin species (Langton *et al.*, *loc. cit.*; Global Invasive Species Database, 2022). In the ongoing national terrapin survey, Turtle Tally UK, the Yellow-bellied Slider outnumbered the Red-eared Slider during the first two years of the survey, 2019-2020 (Simpson, *loc. cit.*). Other terrapins less commonly recorded as living wild in the UK include musk turtles *Sternotherus spp*, cooters *Pseudemys spp* and map turtles *Graptemys spp* (Langton *et al.*, *loc. cit.*; Allain, 2019; Internet ref. 1).

The Red-eared and Yellow-bellied Sliders, as well as the related Cumberland Slider (*T.s troostii*), were listed as invasive alien species of concern in the EU on 3rd August 2016 (Regulation (EU) No 1143/2014). In the EU, they are regarded as widespread and a serious threat to endangered populations of indigenous terrapins such as the European Pond Terrapin and the Mediterranean Pond Turtle *Mauremys leprosa*, because they compete for basking and nesting sites (European Commission, 2020). According to this EU report, pond sliders are also considered to have the ability to disturb aquatic habitats owing to their “voracious appetite” and to pose a “human health risk, being a possible reservoir for *Salmonella*”. The EU Regulation was converted into UK law as *The Invasive Non-native Species (Amendment etc.) (EU Exit) Regulations 2019* with accompanying guidance, e.g. for animal species in England and Wales (Internet ref 2). Under this law, these three slider terrapins can no longer be kept as pets (except any kept prior to 3 August 2016); other restrictions include a ban, with very limited exceptions, on importing these terrapins into the UK and a ban on releasing them into the environment. These terrapins are not, however, included in the *Invasive Alien Species (Enforcement and Permitting) Order 2019* (Internet ref. 3), which requires management plans to be put in place in England and Wales for widely spread species of EU concern. Presumably, for these slider terrapins, it is considered that the focus should be on reducing further introductions into the environment rather than controlling existing populations (see consultation on proposed management measures at Internet ref. 4).

In mainland Europe, competition between non-native and indigenous terrapins has been shown for basking sites (Cadi & Joly, 2003) and food (Balzani *et al.*, 2016). Although this is not relevant in the UK, this situation could change if the European Pond Terrapin were the subject of an authorised re-introduction scheme. Another aspect that needs to be considered is the potential to negatively affect aquatic habitats and to pose a human health risk in the UK. These potential negative consequences are likely to be influenced particularly by the number of terrapins present and their distribution.

Despite evidence of the presence of terrapins throughout the UK, terrapin records are not routinely submitted to local recorders and they are likely to be under-recorded. A recent project used photographs submitted to Flickr to mine records of terrapins in the UK (Allain, 2019). In addition, Turtle Tally UK, a citizen science project (see Internet ref. 5), is currently aiming to cover recording gaps of terrapins in the UK by encouraging the general public and anglers to submit sightings via a dedicated website.

Terrapins were spotted in several lakes and other water bodies in and around Hull during our 2019-2020 dragonfly survey (Gómez & Shillaker, 2020) and during recent monitoring of the city's wildlife by AG (e.g. Internet ref. 6). In the first report on East Yorkshire terrapins, almost three decades ago, Kirk (1994) reported few sightings of terrapins living wild in East Yorkshire but none from Hull. Given this, we decided to produce an account of our findings in South-east Yorkshire (VC61), supplemented by sightings by other observers. This study complements the review by Colin Howes and John Newton (see p100 of this issue) of terrapins from much of the rest of Yorkshire and also the previously mentioned national terrapin survey (Turtle Tally UK). In addition, our study should provide useful background information for any assessment of the potential risks posed by terrapins to the environment and human health in Hull and East Yorkshire, especially in the light of predicted future climate change.

Methods

Terrapin records for VC61 up to the end of 2021 were obtained from several sources; three records from 2022 have also been mentioned because they provide relevant additional information. Our own sightings have been submitted to iRecord, where we also searched for further records. To be as inclusive as possible we searched iRecord for Emydidae, the family-level classification for most terrapin species. A few records were obtained from the NBN Atlas. We are not aware of any additional records held by the Yorkshire Naturalists' Union. In addition to general requests for information posted on social media, we individually approached local naturalists, The North and East Yorkshire Ecological Data Centre, the Pocklington Canal Amenity Society and a few Parish Councils with village ponds where terrapins had been sighted. Once a site had been identified to hold one or more terrapins, further internet searches were carried out to find if there were additional records and/or photographs which would help identify the species.

We generated a bar chart showing the seasonality of terrapin sightings using dates for all VC61 records of Emydidae submitted to iRecord from 2000 to 2021, a total of 52 records. It should be noted that many sightings obtained from other observers have not been entered onto iRecord, in particular because of a lack of sufficient information.

Identification of terrapins to species in the field poses some challenges (Conant & Collins, 1991; also see Discussion, p90). We typically spotted terrapins at some distance, viewed them through binoculars and took photographs. Available terrapin photographs by other observers were also examined. To help, we referred to a guidebook on North American reptiles (Conant & Collins, 1991), published papers (e.g. Langton *et al.*, 2011; Baxter-Smith & Meek, 2012; Vamberger *et al.*, 2020) and online guidance (Internet refs. 7, 8). In many cases we sought confirmation of identification from Suzie Simpson of Turtle Tally UK; in some cases just the genus could be determined. No attempt was made by us to sex terrapins.

A six-figure, 100m x 100m, grid reference is provided for most sites (water bodies) with a terrapin record but it does not necessarily define the exact location of the sighting. Some sites are not well enough defined or cover too wide an area for a grid reference to be helpful. Exact dates were not available for all records as some were from memory, but we wanted to be as exhaustive as possible regarding sites where terrapins had been observed.

Results

Temporal and seasonal findings

The earliest reports of terrapins were from Pocklington Canal in the 1980s; it is unclear if the two 1980s reports refer to the same sighting. The earliest definite terrapin record is, however, from Brandesburton fishing pond no 3 in 1992 with sightings from a few other sites for the years up to 2009 (Table 1). The number of sites with sightings increased slightly in 2010-2014 (eight or nine sites) and then rose to 22 or 23 sites in 2015-2019, with 11 or 12 sites having terrapin records in 2020-2021. These latter included three sites at which terrapins had not been definitely recorded before. In total, terrapins were recorded at 32 (possibly 33) sites, of which 25 are known to have had terrapins during the period 2015-2021. At most sites only a single terrapin was seen. The sites at which more than one terrapin were seen during a visit in the period 2015 to 2021 are listed in Table 2.

Table 1. Number of VC61 sites with terrapin records, 1980s to 2021 mostly as 5-year intervals.

1980s	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19	2020-21
1(2?)	4	1(2?)	2(5?)	2(4?)	8(9?)	22(23?)	11(12?)

Note: the higher value in brackets refers to uncertain or presumed site records.

Table 2. Sites at which more than one terrapin were seen during a visit in the period 2015-2021.

Site	Max. no. of terrapins seen on a visit	Comments
East Park lake	At least 8‡	Possibly as many as 20 (an estimate)
Pickering Park lake	7	Could be more
Humber Bridge Country Park pond	5 or 6	Now thought to be none
Kilnwick Percy Hall lake	3	3 seen in 2014, ‘several’ seen 2021
Paul Holme Strays, car park pond	3	3 seen in 2021
Beverley and Barmston drain (in Hull)	3	3 seen in 2021
Melton village pond	3	2 seen in 2019 & 2020, 1 seen in 2021
Walkington village pond	3	3 reported in 2007, 2 seen in 2021
Foredyke Green pond	2	2 reported by locals (date?), 1 seen in 2017

‡ 9 seen on 17 May 2022

Terrapins were seen during spring, summer and autumn with the first sighting on 9 March and the last on 19 October, which was an unusually warm day with an air temperature reaching about 19°C. Changes in the number of terrapin sightings per month based on iRecord data are shown in Figure 1, p85. Most sightings were recorded in May and June as well as in September, with a dip in the number of sightings in high summer.

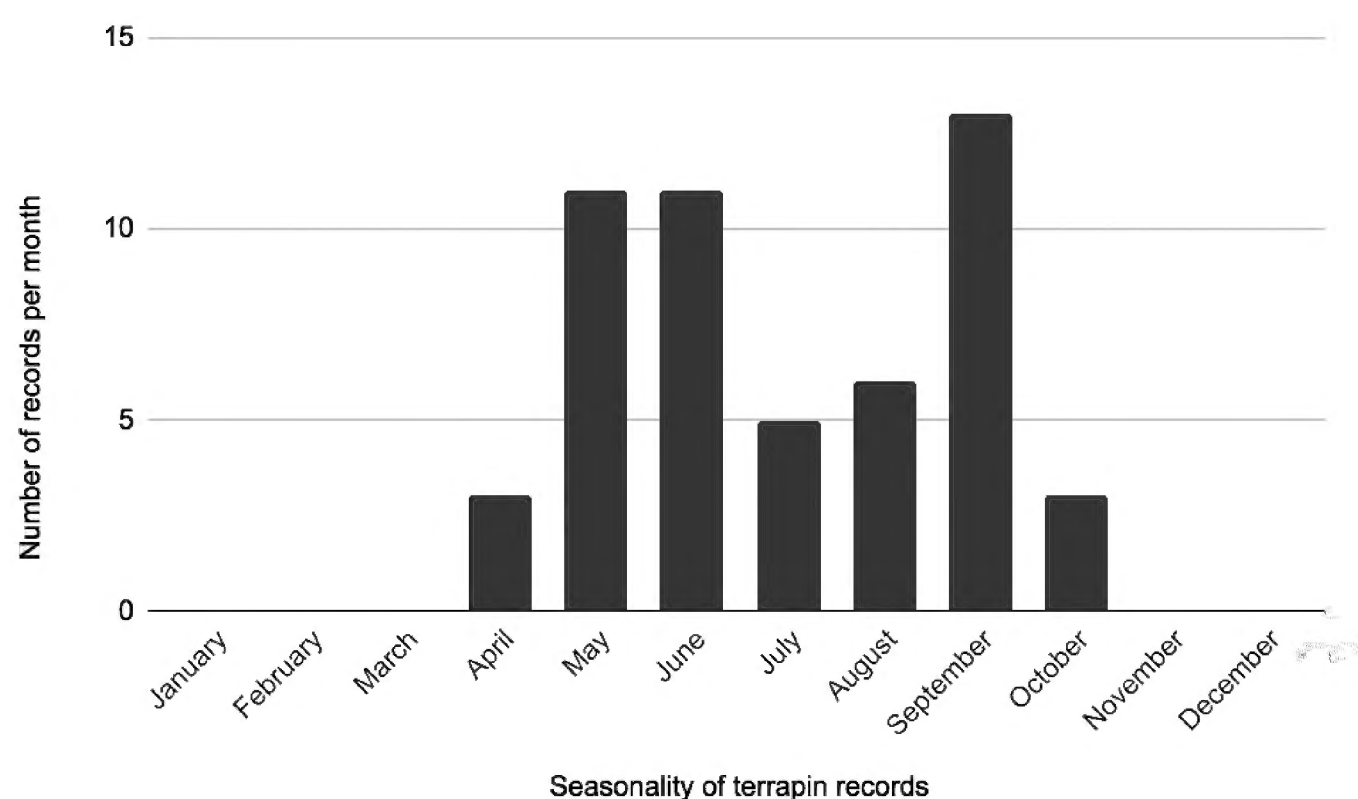


Figure 1. Seasonality of terrapin records in VC61 based on iRecord data (n= 52 records).
 Note: a record is a sighting of one or more terrapins at a particular site on a particular day.
 Hence the number of terrapins seen per month can be greater than the number of records.

Records for individual sites

Terrapin records were obtained for the following 32 sites: 10 in Hull and 22 in the rest of VC61; there is also a record for an unspecified location in Hull. The majority of sites (30) were water bodies and for 16 of these sites there were sightings in more than one year, suggesting the presence of at least one established resident terrapin.

Note: * Indicates sites with one or more records during the period 2015 to 2021

Hull sites

***Beverley and Barmston Drain (TA093306):** The drain, a Local Wildlife Site (LWS), is situated slightly to the west of the River Hull and follows the general course of the river through the city before draining into the river in the Sculcoates district. From 2019 to 2021, up to three terrapins have been seen by AG in the section of drain between Sculcoates Lane and Stepney Lane on six occasions between May and September. A favoured basking spot was a metal drainage pipe but they were also seen basking on an old nest of a Coot *Fulica atra* (Figure 2, p88) and on the shore. Two of the terrapins have been identified as Yellow-bellied Sliders. There is also a report in the Hull Daily Mail (April 2020) of walkers spotting terrapins in the drain near Beverley Road; a photograph shows a terrapin basking on the above-mentioned drainage pipe (Internet ref. 9).

Bransholme Reservoir (TA086339): The reservoir is designated a Site of Nature Conservation Interest (SNCI) by Hull City Council. Stuart Noble told AG that he had seen a terrapin there when doing bird counts c.2013. In addition, anecdotal reports of terrapins are mentioned in a habitat survey report by Black & Veatch Ltd (2011). This recommends that a strategy should be identified to prevent the release of any non-native reptiles (terrapins) into the wild.

***East Park, Ferens Boating Lake:** The park is a SNCI. There is a terrapin record on Twitter from 2014 with regular records in iRecord from 2017 to 2021; photographs are also available. The

number of individuals has been estimated to be “at least eight” (Simon Brebner pers. comm.), although a park ranger estimated that up to 20 could have been present in 2021; nine were seen by AG on 17 May 2022. Terrapins have been observed at several places around the lake where they use bankside branches, old Coots’ nests and fallen tree trunks for basking on the east or south sides of the islands. They have also been spotted by us basking at the water surface. A Yellow-bellied Slider, a Yellow-bellied X Red-eared Slider hybrid and two Cooters have been identified. Also, in July 2022, a Red-eared Slider was photographed basking on a fallen log. One Cooter had a distorted carapace which may have been the result of incorrect husbandry when kept as a pet. In both June 2020 and June 2021 a terrapin basking out of the water was noted to have a few scutes slightly separated from the rest of the carapace. This was considered to be nothing unusual and just part of the normal shedding of scutes. At least one melanistic individual with dark pigmentation of the eyes, skin and carapace was photographed. There is a recent report of someone catching a terrapin and apparently taking it home. No terrapins have been recorded in the adjacent Model Boating Pond.

***Foredyke Green pond** (TA100348): One terrapin was seen in the pond at this LWS in May 2017 and again later that summer (Jen Woollin pers. comm.). Locals have reported up to two large terrapins being present. AG paid several summertime visits to the pond from 2019-2021 when recording dragonflies but never saw a terrapin.

***Holderness Drain** (TA137318): This drain, a LWS, is on the eastern side of the city and takes water from the Yorkshire Wolds to the Humber Estuary. There is a single record from 2017 (Maggie Bruce pers. comm.).

***Noddle Hill Nature Reserve** (TA110349): This is a Hull City Council Local Nature Reserve (LNR). A terrapin was photographed in the main fishing lake in 2019 by AG. In September 2021, AG saw a Yellow-bellied Slider in the adjacent pond-dipping pond.

***Pearson Park lake** (TA084303): A young Red-eared Slider was photographed on a straw bale in the lake at this LWS in July 2006. Another young terrapin, a Slider hybrid, was seen in May 2012. There are also photographs of a Yellow-bellied Slider from May 2017 to May 2018. There have been no recent sightings in spite of regular visits to the park by AG. The likely source of one of these terrapins has been traced to a small pet bought in response to the Teenage Mutant Ninja Turtles TV series and then released into the lake after a few months, when its aquarium became smelly through lack of attention.

***Peter Pan boating lake** (TA055280): AG photographed a terrapin basking at the water surface in July 2019 and one was seen the following year by Chris Clarke (pers. comm.).

***Pickering Park lake:** The park is a LWS. Terrapins are thought to have been present in this large fishing lake for about 20 years with a few possibly released into the lake more recently. Although up to six or seven terrapins at a time were seen between September 2020 and July 2021 there are believed to be more terrapins in the lake. An angler using maggots as bait reported regularly catching terrapins, with up to nine caught on a single day. He noted a red area behind the eye and therefore concluded they were Red-eared Sliders. He has seen a variety of sizes with the largest having a carapace length of c.20cm. One terrapin recorded by AG on a visit in July 2021 was basking on an old bird's nest on the northernmost island. Both Red-eared Sliders (Figure 3, p88) and Yellow-bellied Sliders are present in the lake. A notable record is a Chinese Softshell Turtle *Pelodiscus sinensis* which is reported to have been caught

twice by anglers (including in 2021); one caught a few years ago (Figure 4, p88) was aggressive when handled and was released back into the lake (Ellis Hunter pers. comm.). A further species, a cooter, was identified from a photograph taken in March 2022.

***Unspecified location:** the RSPCA reported that a Giant Musk Turtle (presumably a *Staurotypus* species) was found wandering in Hull in November 2020 (Internet ref. 10).

***Willows Pond** (TA126314): This Hull and District Anglers' Association pond is adjacent to the east end of the Boating Lake in East Park. A terrapin (there may be more than one) was seen regularly in 2021 (Derek Pye pers. comm.).

Other VC61 sites

***Beverley and Barmston Drain** (TA063381): A terrapin was seen in summer 2019 in the drain on Figham Common, by the bridge closest to Woodmansey (Andy Wilson pers. comm.).

Bishop Burton (SE990399): In July 2012, RS saw a terrapin, carapace c.15-20cm long, swimming under water in the small pond on The Green.

Brandesburton fishing lake (TA101474): This lake is called no. 3&4 pond by the Hull and District Anglers' Association. Kirk (1994) cites a report from 12 October 1992 in the Hull Daily Mail of a Red-eared Slider caught by an angler in no. 3 pond and that one had been caught two weeks previously. Kirk considered that a photograph accompanying the article appeared to confirm the identification.

***Filey:** A terrapin, of c.25cm length, was removed from one of the ponds at a caravan park in 2018 (Jen Woollin pers. comm.).

Filey Dams (TA107808): A terrapin is known to have been present at this Yorkshire Wildlife Trust Nature Reserve (YWT NR) but was subsequently removed (Sue Hull pers. comm.).

***Grindale Mere** (TA131711): Up to three terrapins were seen in June and August 2012 and in May 2016 by different observers at this large pond near Bridlington. A Red-eared Slider and two individuals that appear to be cooters were seen (Internet ref. 11).

***High Eske Nature Reserve** (TA052442): This is an Environment Agency Nature Reserve near Beverley. A Red-eared Slider is considered to have been present since about 1997 in a small 'borrow pit' pond due north of High Eske Lake and adjacent to YWT's Pulfin Bog Nature Reserve (Jon Traill pers. comm. and Internet ref. 12). It has been photographed basking on a log several times, including on a warm day in October 2014. The terrapin was recorded most recently in April 2021 (Internet ref. 13) and appears darkened with age.

***Humber Bridge Country Park** (TA018260): This LNR is managed by East Riding of Yorkshire Council (ERYC). Five or six terrapins were seen on one occasion in 2016 (Gavin Paterson pers. comm.). It is presumed that they were spotted in the large permanent pond. The terrapins are thought to have been subsequently removed. There have been no reported sightings in 2020 or 2021.

***Kilnwick Percy Hall Lake** (SE824496): The Hall, which is near Pocklington, is home to the Madhyamaka Buddhist Centre. There are photographs on Flickr and Twitter of terrapins basking on logs between May 2013 and September 2021, which include three Red-eared Sliders (Internet ref. 14). A map turtle *Graptemys* sp. photographed in July 2020 had a rear scute



Figure 2 (left). Yellow-bellied Slider on old coot's nest in Beverley and Barmston Drain. Photo: Africa Gómez.



Figure 3 (right). Red-eared Slider beside Pickering Park lake. Photo: Africa Gómez.



Figure 4. Chinese Softshell Turtle caught by fisherman at Pickering Park lake. Photo: Ellis Hunter.



Figure 5. Communal basking beside East Park lake. Cooter in middle, probable Yellow-bellied Slider on left. Photo: Africa Gómez.

separated slightly from the carapace (Internet ref. 15). A photograph of possibly the same individual taken from a different angle in September 2021 shows a gap around one dorsal scute and another dorsal scute had lifted away from the carapace (Internet ref. 16). Both of these observations are considered to be evidence of the normal shedding of scutes.

Leconfield: Kirk (1994) mentions a report from August 1993 in the Hull Daily Mail of a Red-eared Slider being found in the middle of St Catherine's Drive, Driffield. This was considered to be an escaped pet. Note: St Catherine's Drive is in Leconfield, not in Driffield.

***Leven Canal:** The canal is a privately owned SSSI. A terrapin, probably a species of cooter, was videoed after being caught by a rod and line fisherman in June 2015 (Internet ref. 17).

***Mappleton beach:** a terrapin found on the beach in August 2017 was taken to a veterinary surgery (Maggie Bruce pers. comm.).

***Melton village pond** (SE972264): Three small terrapins appeared in the pond c.2016/2017 and subsequently grew much bigger (Rockett, 2021 and pers. comm.). A floating trap was installed in an attempt to catch them but this was unsuccessful. RS saw two terrapins swimming at the surface of the pond in May 2019 and May 2020. A single terrapin (carapace length estimated at c.20cm long) basking in reeds close to the water's edge was photographed by RS in September 2021; the animal appeared to be a Yellow-bellied Slider.

***Paull Holme Strays** (TA180251): There are reports of up to three terrapins being present in the car park pond of this YWT NR in 2020 and 2021 (see 19 June 2021 posting at Internet ref. 18), with a sighting of a single terrapin in August 2017. One terrapin has been identified as a Yellow-bellied Slider.

***Pocklington Canal:** Most of the canal has SSSI status; the small section in the vicinity of Hagg Bridge not notified as an SSSI has been designated a LWS by ERYC. Several terrapin sightings have been reported on Pocklington Canal Amenity Society's Facebook page in response to our request for information in August 2021. Terrapins are thought to have been present in Pocklington Canal since the 1980s (Alistair Anderson and Ian Vickers pers. comm.). Most reports have been of single individuals, although several have been seen in the past along the Bielby Arm and between Coates Lock and Sandhill Lock according to a report in the Hull Daily Mail (Kirk, 1994.). Kirk mentions several sightings near Coates Lock between 1993 and 1994; they were apparently claimed to be European Pond Terrapins (but this proposed identification has to be questioned in the absence of a photograph and any other reports of this terrapin in the area). The most recent record is of a terrapin spotted in 2020 between Bielby Swing Bridge and Walbut Lock. A number of people have apparently seen a terrapin along this stretch of canal, which was reported to have very little reed and waterweed growth. There are also sightings from the Melbourne stretch (possibly in the 1980s) supported by a photograph of a terrapin in a fisherman's keep net, as well as from near Hagg Bridge (c. 2002) and at Silburn Lock (c. 2011) (Pocklington Canal Amenity Society Archives; Pete Hinks pers. comm.; Marion Blockley, 2011).

***River Derwent** (on border of VC61 and VC62): A terrapin was seen basking on a log beside the River Derwent near Howsham by a canoeist in 2015; the sighting was probably in August or September (Internet ref. 19).

***Saltmarshe Delph** (SE774247): A terrapin, believed to be a Yellow-bellied Slider (no photograph seen), was first spotted in 2017 (Paul Adams pers. comm.) on this YWT NR. It was observed fairly often basking on a raft but there are no reports from 2021. There is no apparent evidence of it having negative effects on the Delph.

***Thwaite Hall lake** (TA053328): previously part of the Hull University estate in Cottingham. One terrapin, possibly noted in summer 2016, has been reported (Graham Sellers pers. comm.). Another, probably a Yellow-bellied Slider, was also seen in a ditch near the lake in September 2019 (Internet ref. 20).

***Tophill Low Nature Reserve** (TA071481): This is a Yorkshire Water NR near Hutton Cranswick. A probable Yellow-bellied Slider was present in South Lagoon at least from June 2015 (Internet ref. 12). No predation of chicks was observed and Little Grebe *Tachybaptus ruficollis* bred successfully in 2016. The terrapin was removed from the NR later that year (Internet ref. 21).

***Walkington village pond** (SE999371): This site has had a large number of terrapin sightings with several photographs on social media. Steve Dowler, who lives in the village and has taken

a particular interest in the pond, says that terrapins, which are still present, appeared in the pond about 20 years ago. Although he has never seen more than two at any one time, there is a report in April 2007 from another observer of three terrapins being present (see pictures of Walkington at Internet ref. 22). Steve provided the following interesting observations in 2021: “They were quite small when they first appeared and grew to their present size over the first 10 years, at which point they seemed to have reached maximum size. Initially they lived solitary lives with little observable interaction, however, for whatever reason, in the last two or three years they have sought out each other’s company and can be seen together on their favourite log at the west end.” The change in behaviour from solitary to social has been noted by another regular observer of the Walkington terrapins.

Steve Dowler also noted that: “They hibernate over winter and make their appearance around mid to late spring (depending on the temperature) and usually disappear around mid-September. With regard to interaction, they will happily ‘sunbathe’ alongside the ducks but are quite timid and will scurry back into the water if approached by humans. Over the years people have expressed an opinion that they should be removed from the pond as they eat the ducklings but I have never seen that happen and the rooks and a solitary seagull (which has visited during the breeding season for the last few years) are much more of a threat.” There are several reports from 2021 of terrapins being present in the village pond. A number of photographs show them basking on a small log occupied by ducks with a Moorhen *Gallinula chloropus* nesting close by. The two terrapins present in 2021 are different species: one, a map turtle, is thought to be a Mississippi Map Turtle *Gratemys pseudogeographica khonii*; the other is a Yellow-bellied Slider. There is also a clear photograph of the map turtle basking beside the pond in 2007 (see pictures of Walkington at Internet ref. 22). In 2021 the first recorded terrapin sighting was on 9 March and the last on 19 October, which was an unusually warm day.

Wawne: A terrapin was seen in a farm dyke about 10 years ago (Rob Atkinson pers. comm.).

Wheldrake Ings NNR: There are records of four separate terrapin sightings on this YWT NR between September 1993 and May 2014 (Craig Ralston pers. comm.).

Discussion

Terrapin records were obtained for 32 (possibly 33) sites in VC61, 10 or 11 of which were in Hull. Most terrapin sightings were from ponds, lakes, canals and open drainage channels (dykes and drains), i.e. from still and slow-flowing water bodies. A large proportion of records were from sites considered important for wildlife conservation, i.e. SSSIs, NRs, LWSs/SNCIs. Other locations included lakes in urban parks and a few village ponds.

Recording and identification. Terrapins are mostly seen when they are basking out of the water, e.g. on a fallen branch. However, a terrapin can be present but out of sight when swimming under water or basking in a position hidden from view. Hence they can easily be under-recorded. We know of several instances in the last few years where a site with at least one terrapin has been regularly visited by us but no terrapin has been seen. In Hull, two lakes in public parks contained several ‘large’ terrapins: nine have been recorded in East Park Lake and seven were seen together in Pickering Park Lake (although more are thought to be present in both lakes).

As mentioned in the methods section, field identification of terrapins to species level can be challenging and many sightings have been recorded just as terrapins. However, we were able to determine that at least four species have been living wild in VC61. Two were fully identified (Pond Slider and Chinese Softshell Turtle). The presence of at least two others was based on the identification of two further genera (cooters and map turtles). One of the map turtles was probably a Mississippi Map Turtle. The sites at which these different types of terrapin were found are listed in Table 3. The Pond Slider, which included two subspecies and hybrids, was the most widespread and frequently identified terrapin recorded in VC61. There was also a report of a Giant Musk Turtle, which probably had been recently released or escaped, as well as reports, of questionable validity, of the European Pond Terrapin.

Table 3. Sites at which terrapin identification to genus or species has been possible.

Location	Pond Slider <i>Trachemys scripta</i>			Cooter <i>Pseudemys</i> <i>sp.</i>	Map Turtle <i>Graptemys</i> <i>sp.</i>	Chinese Softshell Turtle <i>Pelodiscus</i> <i>sinensis</i>
	Red-eared	Yellow- bellied	Hybrid			
Hull sites♦						
Bev & B Drain*		●				
East Park	● (in 2022)	●	●	●		
Noddle Hill	o	●				
Pearson Park	●	●	●			
Pickering Park	●	●		● (in 2022)		●
Other VC61 sites‡						
Brandesburton	+					
Grindale Mere	●			o		
High Eske	●					
Kilnwick Percy	●				●	
Leconfield	+					
Leven				o		
Melton		o				
Paull Holme		●				
Saltmarshe		?				
Thwaite		o				
Tophill Low		o				
Walkington		●			#	

*Bev & B Drain = Beverley and Barmston Drain; ● = Definite ID; # = Probable Mississippi Map Turtle *Graptemys pseudogeographica khonii*; o = Probable ID; + = Reported by Kirk 1994; ? = No photograph to support reported ID; ♦ A Giant Musk Turtle (presumably a *Staurotypus* species) was reported at an unspecified location in Hull; ‡ A report from the 1990s of European Pond Terrapins in Pocklington Canal is considered to be of questionable validity.

It is not surprising that many people who provided records would not be familiar with identifying terrapins, especially as differences between species can be quite subtle. Moreover, it is often not possible to get a clear view of a key feature in the field, e.g. the colour/shape of head markings, owing to the animal's position or the viewing distance, and some photographs were not of good enough quality. Identification is also hampered by individuals, particularly males, darkening with age (Conant & Collins, 1991) or individuals having non-standard features due to cross-breeding in captivity (Langton *et. al.*, 2011).

We have used iRecord to record our terrapin sightings and as one source of sightings by other people, although it has limitations for recording terrapins. In particular, it was not possible to record a sighting simply as a terrapin. If you entered the species name as 'terrapin' there were only four possible options: Red-eared Terrapin as species or subspecies, as well as European Pond Terrapin or Stripe-necked Terrapin *Mauremys caspica*, although the latter would seem to have been rarely found living in the wild in the UK. Terrapins could also be recorded on iRecord as Emydidae. In addition, it was possible to enter the species name as 'turtle' (the American name for a terrapin) and then select from a dropdown list which included Testudines (the reptile classification order for terrapins, turtles and tortoises) and a few freshwater 'turtles'. However, some terrapins known to have been living wild in the UK, notably map turtles, cooters and musk turtles, were not listed on iRecord. Owing to our initial inexperience in identifying terrapin species/genera and the limited options for recording terrapins on iRecord, some terrapin sightings have been reported incorrectly on iRecord as Red-eared Terrapin (as species or subspecies).

Years seen. There are reports of terrapins being released into the wild in the UK since Victorian times (Fitter, 1959). The earliest reports refer mainly to the European Pond Terrapin. In Hull and East Yorkshire, the earliest reports of terrapins living in the wild are thought to be from Pocklington Canal in the 1980s. The first definite VC61 terrapin record is, however, from a fishing pond at Brandesburton in 1992, with sightings from a few other sites up to 1994. These early VC61 records coincide approximately with the time when terrapins first became popular pets in the UK as a result of the Teenage Mutant Ninja Turtle craze. From 1995-2009 terrapin records continued to be only known from a few sites. The scarcity of reported terrapin sightings prior to 2009 is reflected by the observations of an active bird watcher who regularly visited the Noddle Hill area from 1987-2000 and East Park in the early 1990s but never saw a terrapin (Richard Broughton pers. comm.), and also by an apparent lack of terrapin records held by Hull City Council prior to the early 2000s (Jon Capel pers. comm.).

The number of sites with sightings increased slightly in 2010-2014 and then rose to 22-23 sites in 2015-2019. Despite this apparent recent increase in records, evidence suggesting the recent release of terrapins in VC61 is limited, e.g. the appearance of three small terrapins in Melton village pond in about 2016. The larger number of sites with terrapin records in more recent years is probably a result of increased recording by us (as we became more aware of their presence) and by other observers (associated with the popularity of digital photography and greater on-line recording opportunities) rather than to increased numbers of terrapins being released into the wild. Allain (2019) proposed a similar reason for the substantial increase in terrapin sightings reported on Flickr during the final years of his survey (2017-2018); he considered that this could have been due to more people using Flickr. Another possible factor contributing to the increase in terrapin sightings in recent years could be that as released

terrapins grew they became more noticeable, especially in large water bodies.

Terrapins are relatively long-lived. Red-eared Sliders can live for about 40 years (Global Invasive Species Database, 2022), although c.30 years is common (Harding, 1997), and the European Pond Terrapin has been known to live for up to 120 years in captivity (Stuart, 1979). It is therefore not surprising that at two sites, High Eske NR and Walkington village pond, there is evidence for one or more terrapins having been present for at least 20 years; terrapins are also thought to have been present in Pickering Park Lake for about 20 years. At High Eske the same Red-eared Slider is believed to have been present in a borrow pit pond since about 1997.

Seasonal activity. Terrapins were visible from March to October. During the colder months of the year they hibernate ('brumate' - dormant period for reptiles), normally under water (Ultsch, 1989) and have a number of physiological adaptations which allow this, including the ability to absorb oxygen from water through their vascularised cloaca and to tolerate hypoxic/anoxic conditions which can occur at the bottom of an iced-over pond (Ultsch, *loc. cit.*; Bronmark & Hansson, 2005; Litzgus, 2017).

Most VC61 sightings reported on iRecord were in May, June and September with a dip in the number of sightings in high summer. Although these data do not take account of other variables, e.g. the number, location or time of site visits, they do raise the possibility of seasonal differences in basking behaviour which might be worthy of further investigation. In eastern and central USA, sliders and cooters are reported to be seen basking in spring and autumn or at any time when it is not too hot or too cold (Conant & Collins, 1991). This is supported by observations on the Yellow-bellied Slider in the US state of Georgia where summer is a time of reduced basking activity compared to spring and autumn (Internet ref. 23). Our findings are, however, somewhat different to those of Allain (2019), who noted a peak in terrapin records in May but not September, and Howes & Newton (see p100 of this issue) who report the highest number of sightings in May, July and September.

Basking. Terrapins are particularly noticeable when basking on isolated logs or other structures at or near the water surface. Basking is a means of thermoregulation and is important for maintaining optimal metabolic activity, upregulating hormonal function during the nesting season, aiding digestion, facilitating vitamin D synthesis and controlling ectoparasites (see references in Dreslik & Kuhns, 2000; Jacobi & Kahl, 2021). Emydid terrapins are well-known for communal basking (Jacobi & Kahl, *loc. cit.*). We witnessed communal basking on numerous occasions and have photographs from various sites showing several terrapins basking close together on the same log or at the water surface. Communal basking can involve more than one terrapin species (Figure 5, p88). Also, an apparent change in behaviour from solitary to 'social' basking has been anecdotally reported for the map turtle and Yellow-bellied Slider in Walkington village pond. We noted that terrapins are wary and easily disturbed when basking, e.g. by an approaching person, causing the animals to slide off into the water. We also observed a basking terrapin return to the water following a sudden burst of loud bird calls and a Moorhen rushing through nearby vegetation.

Evidence of a benefit from communal basking comes from a study of Red-eared Sliders in Texas which suggested that basking in groups enabled better detection of predators (Jacobi & Kahl, *loc. cit.*). The anti-predator benefits of communal basking may be more limited in the UK where

adult Red-eared Sliders are considered to have “few natural enemies” (Aldridge *et al.*, 2020), although these authors note that it is conceivable that hatchlings could be eaten by a number of predators e.g. by Grey Heron *Ardea cinerea* and corvids. The Otter *Lutra lutra*, however, has been shown to predate both juvenile and adult Mediterranean Pond Turtles in southern Spain (Clavero *et al.*, 2005). In addition, communal basking could help to protect against unwelcome ‘attention’ by humans and dogs. Basking may also have a negative ecological effect. Terrapins sometimes bask on birds’ nests built at, or close to, the water surface. Hence it is possible that nesting by birds such as Moorhen, Coot and Great Crested Grebe *Podiceps cristatus* could be disrupted. However, we have only observed terrapins basking on ‘old nests’, i.e. those no longer used by birds.

Diet. Pond Sliders are widely-foraging, opportunistic omnivores consuming a variety of aquatic vegetation, invertebrates and, to a lesser extent, vertebrate food (Parmenter & Avery, 1990). Juveniles are reported to feed on a fairly balanced mix of plant and animal matter but as they grow plant material dominates. In a recent study this difference in diet was true for small and medium-sized Pond Sliders but the largest individuals were found to consume more animal than plant material (Works & Olson, 2018). Small fish, tadpoles and frogs can be actively pursued and captured but larger vertebrate food items are thought to usually result from feeding on carrion. Of the less-frequently recorded terrapins in the UK, the River Cooter *Pseudemys concinna* is primarily herbivorous; in contrast the Common Map Turtle *Graptemys geographica* is mainly carnivorous feeding on molluscs, crayfish and aquatic insects (Internet ref. 24). The Chinese Softshell Turtle is reported to be primarily carnivorous but a recent preliminary study in China concluded that it was omnivorous (Kong *et al.*, 2022).

Terrapins have not been observed feeding in VC61, although several have been caught by anglers using maggots, mussels or sweet corn as bait. Food resources at some sites must be suitable because at least two individuals are considered to have survived for about 20 years and terrapins released into Melton village pond grew considerably in a few years. In addition, obvious signs of poor health, e.g. the eye effects reported in pet sliders (Internet ref. 25), have not been noted at any site. Visitors to village ponds and urban lakes in VC61 often feed the ducks, particularly with bread. It is therefore notable that, in one London park, terrapins began feeding on bread thrown for the ducks (Langton *et al.*, 2011).

Red-eared and Yellow-bellied Sliders can grow to a relatively large size (female carapace length up to c.30cm). However, being poikilothermic their energy requirements can be less than a similar-sized mammal. Hence in VC61 the ecological impact from terrapins feeding could be less than suggested by their body size. Ecological impact will be also influenced by several other factors including the number of terrapins and the size of the water body. For example, nine terrapins have been seen at the 16 acre lake in East Park and, although it has been suggested that as many as 20 may be present, it is difficult to imagine how they could have much of an impact on the ecology of such an extensive water body. However, as terrapins are large and non-native there is often a desire to remove them from ponds and lakes (this is not always successful, e.g. at Melton village pond). A commonly-stated concern is suspected predation on ducklings and other young waterfowl. We have not found any convincing evidence for this in the UK, although we are aware of anecdotal reports including some in the press (e.g. Barkham, 2007), and snapping turtles e.g. *Chelydra serpentina*, which have been found in some UK water bodies, would be expected to predate waterfowl. Langton *et al.* (*loc.cit.*) consider that

the Red-eared Slider “has been wrongly accused in the press of attacking ducklings and other small wildlife (e.g. Yapp, 2004; Lloyd, 2005) often when other predators such as Northern Pike *Esox lucius* or the introduced Wels Catfish *Silurus glanis* are more likely to be responsible (e.g. Anon., 2005)”. An observer at Walkington suspected that Rooks *Corvus frugilegus* and gulls were more of a threat than terrapins to ducklings on the village pond. However, predation by a Pond Slider on a duckling has been observed in Spain (Salerno & van den Burg, 2021) and a Red-winged Blackbird *Agelaius phoeniceus* which was struggling on the surface of a pond in North America was reported to have been attacked by up to three Pond Sliders (Lignon, 2007). The Colombian Slider *T. venusta callirostris* (previously classified as *T.s callirostris*) is also known to capture waterfowl by seizing their legs and pulling them under water (Pritchard & Trebbau, 1984; Cortes *et al.*, 2021). Salerno & van den Burg commented that the chance of directly observing this type of predation is limited by the apparent speed of attack with the prey being dragged under the water.

Health and safety. Terrapins commonly carry *Salmonella* bacteria on the surface of their skin and carapace and outbreaks of *Salmonella* poisoning in humans have been linked to the keeping of pet terrapins in the USA (Internet ref. 26); associated cases of sepsis are also known (Nagano *et al.*, 2006). A survey of pathogenic bacteria in free-living Red-eared Sliders in Spain found that 15% of the sliders sampled had *Salmonella* in their intestine or cloaca (Marin *et al.*, 2013). Therefore the risk to humans in the UK from the presence of terrapins in the environment needs to be considered, although the risk would be expected to be low unless terrapins were handled. It should be noted that Chinese Softshell Turtles can become aggressive and bite when handled (Park *et al.*, 2006). In addition, non-native terrapins may carry diseases that infect native wildlife. For instance, pet terrapins rehoused at London Zoo suffered from an outbreak of the protozoan *Hexamita* which then created a concern for the zoo’s bird collection (Langton & Herbert, 2011).

Breeding. We obtained no evidence for terrapins breeding in VC61. This was based only on casual observations but is consistent with observations from elsewhere in the UK. Notably, despite several reports of egg-laying associated with terrapins living in the wild in the UK (Bowley & Durkin, 1996; Langton *et al.*, 2011), there is little evidence for successful breeding leading to a sustainable or increasing population. The only apparent example of successful breeding is said to have involved the European Pond Terrapin in east Suffolk (Fitter, 1959); the original reports refer to releases and observations on the Mediterranean Pond Turtle (then called the Marsh Tortoise *Clemmys leprosa*), which occurred during the period 1889-1929 (Anon, 1931; Rope, 1934).

Current summer temperatures in the UK are considered to be too low to permit successful egg incubation. Data gathered by Rödder *et al.* (2009) from other studies suggest that an air temperature of c.26-32.5°C lasting for 60-130 days is required for successful incubation of Red-eared Slider eggs. However, as sex determination in this animal is temperature dependent (cooler temperature favouring males, warmer favouring females) a narrower temperature range (28.3-30.6°C) is required for a balanced sex ratio which would facilitate the establishment of a viable breeding population. It is notable that, although Red-eared Sliders have been widespread in mainland Europe for decades, evidence of successful breeding has only been found around the Mediterranean: in Spain (Perez-Santigosa *et al.*, 2008), France (Cadi *et al.*, 2004), Italy (Foglini & Salvi, 2017) and Slovenia (Standfuss *et al.*, 2016).

The future. The continued presence of terrapins in Hull and East Yorkshire will depend particularly on the balance of recruitment to, and loss from, the current population. Without further recruitment the population in VC61 will eventually die out. Recruitment will be affected by the following factors.

- a) Successful breeding by terrapins living in the wild. Currently this is unlikely as it would require, in particular, much warmer summers and for a site to have both sexes of a species in reproductive condition.
- b) Continued illegal release to the environment of unwanted pet terrapins (terrapins are still offered for sale as pets in the UK). All terrapins, including the European Pond Terrapin, are regarded as non-native in the UK. Hence, releasing any terrapin into the environment in the UK would be an offence under Section 14 of the Wildlife and Countryside Act 1981.
- c) Possible authorised re-introduction of the European Pond Terrapin, which lived in southern Britain in prehistoric times. There have been re-introduction attempts in the UK in the past, with importing reported since Victorian times. Although there are several historical records of this terrapin in the UK there are few recent records (Fitter, 1959; Langton *et al.*, 2011; Allain, 2019; Simpson, 2021). This is the most northerly-breeding Chelonian in the world and occurs in western Europe as far north as southern France (see map in Stuckas *et al.*, 2014), although in eastern Europe it is present further north e.g. in Poland and Lithuania (Rybacki & Maciantowicz, 2008; Internet ref. 27). It is reported to favour shallow ponds that warm up quickly with plenty of plants in the littoral zone (Janiszewski *et al.*, 2014). These authors consider that the Eurasian Beaver *Castor fiber* creates suitable habitat for the terrapin. Hence the current re-introduction of the Eurasian Beaver into the UK might benefit any future authorised re-introduction of the European Pond Terrapin.

Loss from the terrapin population in VC61 could be due to:

- a) Death from old age, poor health, disease or predation, or
- b) Intentional removal of terrapins from water bodies because of concerns about the effect of a non-native species on the ecology of a site.

We intend to continue to record the presence of terrapins in VC61 and therefore would be grateful to receive details of any sightings, especially if photographs are available.

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Turtles, Sliders and Cooters: A preliminary review of exotic terrapins in north, south and west Yorkshire.

Colin A. Howes¹ 7 Aldcliffe Crescent, Balby, Doncaster DN4 9DS
and John Newton²

¹ colinhowes@blueyonder.co.uk

² amphibians@sorby.org.uk

Introduction: Terrapins or ‘sliders and cooters’, as they are referred to by enthusiasts in the USA, are bred for the pet trade in their millions on farms in the southern United States and exported as appealing 50p piece-sized hatchlings mainly to the UK and Europe (Warwick, 1986 & Internet ref. 1). Although this trade has a long history, the American children’s cartoon series *Teenage Mutant Ninja Turtles*, so popular on TV from 1987 to 1996, is popularly credited with fostering the UK demand for terrapins. The fad for them is periodically renewed by the release of yet more additions to the *Ninja Turtles* animation franchise, also by children’s films such as *Finding Nemo* in 2003, its 3D version in 2013 and *A Turtle’s Tale: Sammy’s Adventures* in 2010.

Abandoned pets: Sadly, as naive owners tire of these long-lived creatures (living from 30-50 years), which grow to the size of a soup bowl and can become vectors of the food poisoning bacterium *Salmonella*, many are dumped into the wild. Such is the extent of the problem that many public ponds, canals and lakes are now home to abandoned terrapins (Durkin, 2016,

Wareham, 2008 & Internet ref. 2).

Taxonomy (based on Ernst & Lovich (2009)): Most terrapins imported by the pet trade belong to the reptile order Testudines (turtles), the vast majority being the Red-eared Terrapin *Trachemys scripta elegans* of the family Emydidae from the Mississippi river basin, though occasionally examples of the Yellow-bellied Terrapin *T.s.scripta* from northern Mexico and the southern USA turn up and there is one confirmed record of River Cooter *Pseudemys concinna* from the eastern USA (Smith-Baxter & Meek, 2012). There is an allusion to the ephemeral introduction of the Chinese Softshell Turtle *Pelodiscus sinensis* of the family Trioychidae and, exceptionally, bruisers like the Alligator Snapping Turtle *Macrochelys temminckii* of the family Chelydridae are discovered. One was 'rescued' from the angling pond at Abbeydale, Sheffield (SK3281) in the 1990s (pers. comm. Wayne Gilbert) which was exhibited live at one of Doncaster Museum's reptile shows.

Becoming naturalized: Although breeding has not been proved in the Yorkshire region a newly hatched Red-eared Terrapin was found by the Canal and Rivers Trust in the Regent's Canal, North London during the hot summer of 2013 (Internet ref. 2) and in 1992 a female was found laying eggs at Shibdon Pond in Gateshead, Co. Durham; this species is known to successfully breed at our latitude in Denmark and the Netherlands (Durkin, 2016.). It has been suggested that with progressively warming summers these exotic reptiles may begin to regularly breed here and compete with our native fauna (Internet ref. 2). In January 2015, in anticipation of them becoming naturalized, the release into the wild of any subspecies of *Trachemys scripta* terrapins was prohibited under the EU Invasive Alien Species Regulations. Since 1 January 2021, when the UK left the EU, this regulation was amalgamated into UK legislation through 'retained EU law'.

UK Survey: To date the exact distribution of alien terrapins in the UK is not known; consequently in 2019 a citizen science recording project, the 'Turtle Tally UK', was initiated (www.turtletally.co.uk) and managed by Suzie Simpson, Lecturer in Animal Management at Hadlow College, in collaboration with the National Centre for Reptile Welfare and the British Herpetological Society. A significant contribution was provided by S.J.R. Allain (2019) who, during the period 2008 to 2018, assembled 258 records, though with only two from the Yorkshire region. The following review represents a preliminary contribution to the UK scheme for VCs 62, 63 and 64 from the Yorkshire Naturalists' Union. An analysis of occurrences in VC61 (South-east Yorkshire), based on archive studies and current fieldwork by Richard Shillaker and Dr Africa Gómez has been submitted as a sister paper to this review (see previous article).

Periodicity and Seasonality:

Allain (*loc.cit.*), harvesting his data from photographs of terrapins submitted to the Flickr website, shows a large though consistent volume of records from 2009 to 2016 with a substantial increase in images during the years 2017 and 2018. This he links to an increase in the number of camera-phone users placing images on the internet, rather than an increase in terrapin numbers. The surge in north, west and south Yorkshire records in 2005-09 pre-dates this, though the 2015-19 records are indeed largely from the publication of photographs on internet websites (see Table 1 p102 and internet references).

Allain (*loc.cit.*) shows a rapid rise in activity reaching a springtime peak in May, progressively

declining, though with a slight rally in August, to a winter hibernation period after November. The preliminary north, west and south Yorkshire data based on 53 dated records show minimal activity from November to March with peaks of observations in May, July and September (see table 2).

Table 1: Periodicity of sightings in five year periods (n 56)

1980s	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19	2020-21
5	4	5	3	19	3	13	4

Table 2: Seasonality of sightings in Yorkshire based on individuals reported per month 1992 to 2021 (n 53).

Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1			5	12	6	13	2	9	4	1	

Distribution in the North, West and South Yorkshire regions.

VC62 North-east Yorkshire

Un-localised sites: The website entitled British Herping Wiki gives a vague, undated, unprovenanced and generally unhelpful reference to the introduction of “around 3-4 breeding pairs” of the Chinese Softshell Turtle “to a handful of marshes around North Yorkshire”, the source providing the tantalizing coda “They haven’t lasted long in the wild” (Internet ref. 16).

Cleveland: In the urban districts of adjacent County Durham and the Cleveland area over 100 unwanted pet terrapins have been recorded at a number of easily accessible urban ponds, Durkin (2016) showing that within North-east Yorkshire specimens had been found to the east of Middlesbrough in the Wilton (NZ5920) and the Skelton (NZ6719) areas.

York area: On 17 April 2013 a 10 inch long specimen of Yellow-bellied Terrapin, thought to have recently emerged from hibernation, was disturbed basking on the bank of the River Foss adjacent to Huntingdon Road, York (SE6154). It was captured from the water by animal welfare enthusiast and punk rocker Stevie Ze Suicide and its identity confirmed from photographs by Hannah Walker of Critters Reptile Rescue, Driffild (*The Press*, York 20 April 2013). A Red-eared Terrapin was in the River Ouse at Rawcliffe Meadows (SE5708854880) on 11 November 2015 (Nick Westerman via NEYEDC).

Coxwold area: An adult terrapin of unknown species was seen on 25 September 2021 at a site within grid square SE57, North Yorkshire (Internet ref. 15).

VC63 South-west Yorkshire

Sheffield area: Such large numbers were being abandoned in the Sheffield/Rotherham conurbation during the 1990s that the RSPCA and Local Authority were overwhelmed so the Sheffield Turtle Trust was set up to undertake 'rescues' and to try to re-home some of these pets. Although the Trust performs sterling work, documented records of finds hardly represent the volume of its activity. Wayne Gilbert of the Trust passed the following records of *Trachemys scripta* for inclusion in Whiteley (1997): Abbeydale Hamlet millpond (SK3281), seen on several occasions in the dam and often on the log at the waters edge in July 1986; Sheffield Canal

near Stainforth Arms (SK3687), 1990s; Catcliffe Flash (SK4288), September 1990 a five/six inch specimen sunning on a tree trunk by the bank; Weston Park (SK3387), a specimen basking on a rock in September 1991, with additional sightings in 1995; Moss Valley, two were at Ford millpond (SK4080) and at the weir near Neverfear Bridge (SK48) during the 1980s and again in 1997; Shire Brook (SK4384), April 1981; Woodhouse Wetlands (SK4385), one was in a drain in 1995; Endcliffe (SK3286), one survived in a garden pond overwintering for three years in the 1990s (all Whiteley, 1997).

In 2008 there were reports of sightings of animals from Beauchief Abbey ponds (SK334817) but these could not be confirmed (pers. com. John Newton). By the River Don, Corporation Street Bridge (SK3588) May 1990, a ten inch specimen was sunning itself on the river bank (*Sheffield Star* 1 June 1990). In August 2015 Oliver Mappin was fishing in the River Don in Sheffield when he caught a foot long terrapin which he photographed before releasing back into the Round Dam (SK38) (Internet ref. 3). At Graves Park (SK3582), one of three terrapins made the national press by allegedly biting off the legs of the local Coot (*Daily Express* 21 April 1997). On 16 January 2020 one was found 'shuffling about' beside one of the streams in Graves Park (SK3582). Although the local folklore suggested a number of them occurred in the park, Caroline Dewar of the Friends of Graves Park was not aware of any terrapins living there, despite volunteers regularly tending to the park's wildlife area and there being many aquatic habitats for them to inhabit (Internet ref. 4).

Rotherham area: The Rotherham Biological Records Centre has a series of sightings from Thrybergh (SK4795): 9 October 1997; 8 July 1998; 28 May 2001; 13 June 2009 and 4 July 2009.

Barnsley area: At Worsbrough Reservoir Country Park (SE3403) there were sightings in September 1991 and May 1992 (Whiteley, *loc. cit.*) and on 8 June 2007 one was photographed basking in the sun (Internet ref. 5). At Carlton Marsh Nature Reserve (SE3710) during 2020 a Red-eared Terrapin was swimming in the wader scrape on 13 June. 2 were in the main scrape on 19 and 30 July and 3 were present on 22 August (per. D. Standish & C. Gorman) (Internet ref. 5). Along the Dearne Valley herptile surveys conducted by one of us (JN) confirmed sightings judged to be Red-eared Terrapin from the River Dearne adjacent to the car parking layby at Barugh Green (SE319090) in July 2006; at Parkhouse Brickworks Pond (SE406030) in May 2016 and on a log by the river at Edderthorpe Flash (SE409071), also in May 2016.

Doncaster area: In the River Don adjacent to Sprotbrough Flash Nature Reserve (SE5300) there were numerous sightings of a terrapin pre 2008 (per Doncaster Museum enquiry). One was seen at Sandall Park (SE603056) 10 April 2008 (per Doncaster Museum enquiry). One was spotted basking in the sun at Doncaster Lakeside (SE5901) one weekend in April 2008 (per Doncaster Museum enquiry). On 6 September 2020, during a visit to the Edlington Pit Community Woodland (SK5499), members of the Doncaster Naturalists' Society encountered a Red-eared Terrapin in the upper lake, basking in the sunshine on a floating log. Ian Singleton of the Edlington Pit Wood support group confirmed that previously two terrapins had been seen in the lake and that another had been seen in the nearby ex brickworks pond Martinwell Lake (SK5398) (see internet ref. 6).

Goole area: In c. 2015 Peter Hinks had a sighting of a terrapin sp. in the pond at Oak Hill Nature Reserve near the Aire and Calder Navigation rail bridge at SE731223 (pers. comm. Dick Shillaker).

Wakefield area: A Red-eared Terrapin was in the north-east corner of Wintersett Reservoir (SE3815) on 4 May; 28 & 31 July 2020 (Internet ref. 5). On 9 July 2003 an adult Red-eared Terrapin was seen in the pond in the 'Ready Cut' complex at Horbury (SE3018). Local residents claimed that over ten had been released there over ten years previously and had survived (Sunter & Mortimer, 2006). It was rumoured that terrapins had been released at Newmillerdam (SE3315) in 2008. On 24 June 2016, whilst walking on the boathouse side of the lake; Mike Slvo photographed one basking on a Coot nest in the lake, it slid into the water and was joined by a second specimen; both were photographed (Internet ref. 7).

Castleford area: Red-eared Terrapins were seen in Pit Lane Flash (SE433278), Mickletown Ings during 2004. One hauled out on a Coot nest to bask in the sun on 23 May then three were seen on 18 July and two on 24 October (per John Martin) (Sunter, 2005).

Huddersfield area: On 1 May 2017 Laura Foleher photographed two terrapins basking in the sun on the bank of the Huddersfield Broad Canal at Fartown (SE1518) (Internet ref. 8). On 8 May 2018 along the Salter and Hebble navigation through to Copley, Calderdale (SE0822), Paul Bigland photographed a terrapin sunbathing on a log (Internet ref. 9).

VC64 Mid-west Yorkshire

Skipton area: One at Skipton Castle Woods (SD9952) was photographed in April 2018 by Fred Rhodes. "It is thought at least two terrapins live in the waters of the Round Dam ... They frequently surface on rocks and semi-submerged timber to bask in the sunlight." (Internet ref. 10).

Leeds area: On 11 May 2008 William Waby photographed a group of three basking Red-eared Terrapins in Roundhay Park (SE3338). On 6 September 2011 another was photographed (Allain, 2019). In July 2019 Roger Cliff photographed a terrapin in the Leeds-Liverpool Canal near Rodley (SE2236) (Internet ref. 11). Single terrapins of unknown species were seen on 6 June 2016 at a site to the north of Leeds (SE24) and on 16 July 2018 at a site to the west of Leeds (SE23) (Internet ref. 15). A terrapin observed in the Leeds/Liverpool Canal near Saltaire (SE1238) on several dates from July to September 2011 and photographed on two occasions enabled its identity to be confirmed as a River Cooter *Pseudemys concinna*. Its carapace length was approximately 28cm indicating it to be an adult. It appeared to have a favoured location where it emerged to bask on a bank-side log (Smith-Baxter & Meek, 2012).

Selby area: On 14 September 2014 a narrowboat owner reported that terrapins had been present in the Selby Canal (SE6130) for a number of years with four or five sightings per year. "They like to bask in warm sunshine sitting on exposed logs" (Internet ref. 12). One was again photographed here on 7 June 2015 (internet ref. 13) and 6 September 2015 (Internet ref. 14).

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YNU Bryological Section: Report for 2021

T.L. Blockeel

9 Ashfurlong Close, Dore, Sheffield S17 3NN

email: Tblockeel@aol.com

Excursions

Two sectional meetings were held in 2021 and are reported below. Nomenclature follows the recently published British and Irish Census Catalogue (Blockeel *et al.*, 2021), which introduces a number of name changes from the previous edition.

Spring meeting, Bown Scar and Scoska Cave, Littondale, 8 May 2021

April 2021 had proved to be one of the driest and frostiest on record and extreme weather continued to prevail during this meeting on the limestone in Littondale. Those of us who came over by Greenhow in the morning found ourselves driving through wet snow in a temperature of 1°C. The wet weather continued through most of the day, though it eventually brought with it warmer temperatures. Bryologising was therefore difficult. We began recording by the rivulets below Bown Scar, which supported plentiful *Palustriella commutata* and *Hygrohypnum luridum*, with occasional patches of *Didymodon spadiceus*, *Gymnostomum aeruginosum* and a little *Rhynchostegiella teneriffae*. *Breutelia chrysocoma* was present in the moist turf nearby. From here we worked the rocks and woodland in the direction of Scoska Cave. The open woodland was notable for large quantities of *Loeskeobryum brevirostre* and *Hylocomiadelphus triquetrus* in the field layer. Rocky outcrops and crags produced *Mesoptychia collaris*, *Plagiochila britannica*, *Scapania aspera*, *Tritomaria quinquedentata*, *Seligeria acutifolia* and *Mnium thomsonii*.

Scoska Cave provided welcome shelter for lunch. The interior of the cave did not produce any unusual bryophytes, but a good patch of *Pedinophyllum interruptum* was present on wet rocks below the entrance. Crags to the north-west of the cave had some impressive mats of *Metzgeria pubescens* and fine cushions of *Plagiopus oederianus*, and a little *Orthothecium intricatum* and *Flexitrichum gracile*. Steven Heathcote spotted the very slender and elusive *Platydictya jungermannioides*, and *Taxiphyllum wissgrillii* was noted on a small boulder near ground level. *Thuidium delicatulum* accompanied *T. tamariscinum* at one place on the woodland floor. Epiphytes included the now predictable *Metzgeria violacea*, *Cryphaea heteromalla*, *Orthotrichum pulchellum* and *Ulota phyllantha*, but also present on Ash and/or Hazel were *Lejeunea cavifolia*, *Frullania tamarisci*, fine *Zygodon conoideus* with sporophytes, and a tuft of *Ulota calvescens*. The presence of the latter in the Pennines is a recent phenomenon (or perhaps only recently recognised). *Cephalozia curvifolia* was seen on several logs.

In better conditions we might have been able to work further into Scoska Wood NNR, but nevertheless our final list for the relatively small area that we were able to survey totalled 104 species.

Autumn meeting, Helwath and Jugger Howe (VC 62), 2 October 2021

We worked the banks of the Helwath Beck from Helwath Bridge towards the junction with the Jugger Howe Beck. Initially, most of the ground was acidic. Records on and by the banks

of the stream included *Calypogeia arguta*, *Jungermannia pumila*, *Plagiochila porelloides*, *Scapania nemorea*, *Dicranella rufescens*, *Fissidens pusillus*, *Hyocomium armoricum* and *Sciurohypnum plumosum*. Further down the stream on boulders we added *Marsupella emarginata*, *Orthocaulis attenuatus*, *Scapania gracilis*, *Heterocladium heteropterum* and the very scarce *Campylostelium saxicola*, a moss that seems to have quite a strong presence around the North York Moors. *Plagiochila britannica* was detected among *Thamnobryum alopecurum* on one large boulder.

There were some exposures of sandstone on a steep bank above the stream, and careful searching produced *Blindiadelphus recurvatus*, with a little *Neckera complanata*. Diversity was further augmented by some near-vertical wet crags on the west bank of the stream which showed evidence of base-enrichment. The handsome liverwort *Trichocolea tomentella* was present here, and wet rocks had *Jungermannia atrovirens*, *Eucladium verticillatum*, *Fissidens adianthoides*, *Palustriella commutata* and *Hygrobiella laxifolia*, the latter on a moist rock face in a thin film of algae. *Hookeria lucens* grew on wet humus, and *Cephalozia curvifolia* on rotten wood.

Robust bryophytes that occurred in various places on the woodland floor included *Plagiochila asplenoides*, *Cirriphyllum piliferum*, *Dicranum majus*, *Eurhynchium striatum*, *Hylocomiadelphus triquetrus*, *Leucobryum glaucum*, *Plagiothecium undulatum*, *Thuidium tamariscinum* and *Rhytidiadelphus loreus*. Most epiphytes were rather sparse, but included small amounts of *Lejeunea cavifolia*, *Metzgeria violacea* (on Sallows), *Orthotrichum pulchellum*, *Ulota crispa* s.str. and *U. crispula*.

In the afternoon we worked south along the Jugger Howe Beck but there were few rock exposures and few additional bryophytes, although *Campylium protensum* was found on the concrete of a footbridge. The prospect of heavy rain, soon fulfilled, prompted a relatively early departure. Our final list totalled 108 taxa.

The year's records

The number of records received for 2021 from each of the Watsonian vice-counties is shown below.

Vice-county	Records received
61	20
62	151
63	345
64	1905
65	840

Once again Gordon Haycock’s recording in Wharfedale boosted the numbers for VC64. In addition, John O’Reilly submitted a long list of records from Upper Teesdale from surveys conducted in 2015 and 2016, and three visiting bryologists, Claire Halpin, Sean O’Leary and Sharon Pilkington, did some excellent and very useful recording in the Masham area in VC64 and 65 during a week in June. Particularly notable among the Masham records were two rare epiphytic mosses, *Orthotrichum columbicum* and *O. pallens*. The former species, until recently known as *O. consimile*, was re-found in Britain in 2007 more than 150 years after its original discovery, and several additional records were made during the next few years but then tailed

off. The new records from Grewelthorpe and Mar Field are therefore particularly welcome. *Orthotrichum pallens* has always been rare in Britain, particularly during the years of high SO₂ pollution, but there are a few old records from the Yorkshire vice-counties, and recent ones from Addingham in Wharfedale in 2005, and at Brockadale in 2014. The new find at Mar Field appears to be the first for VC65 since the late 19th century. Another very significant record by Claire Halpin and Sean O’Leary was of *Homomallium incurvatum* at Ellington Firth. This is a nationally rare moss, and the only other site known to be extant in Yorkshire is at Whitcliffe Wood near Richmond in Swaledale.

The week in Masham also contributed many new records in an area that is under-recorded. They included *Bazzania trilobata* at Hackfall Wood, *Didymodon ferrugineus* and *D. icmadophilus* at Mar Field, and *Leucodon sciuroides* at Pinker’s Pond. The list from Grimes Gill, which includes *Blindia acuta*, *Dicranum fuscescens*, *Scapania gracilis*, *S. nemorea*, *S. umbrosa* and *Solenostoma paroicum*, suggests a flora similar to that at the better-known Birks Gill, some 4 km to the north.

During the YNU general meeting at Cautley Spout in August the tiny moss *Ditrichum lineare* was detected on semi-bare ground on an open bank, a moss new for Yorkshire and with only four other hectad records in England, though more widespread in Wales and Scotland. *Polytrichum perigoniale* was found in the same area at Cautley. This is a neglected moss, probably much under-recorded because of its similarity to other *Polytrichum* species, and until recently treated as a variety of *P. commune*. *Sphagnum angustifolium* was re-found near the Spout after an interval there of more than 50 years.

Steven Heathcote’s records from the Great Dike Edge area at Holme Moss show evidence of recovery of the flora there in recent years, notably with the presence of *Hylocomium splendens* and *Sphagnum rubellum*. During the era of high acid pollution, *H. splendens* almost (if not completely) disappeared from the South Pennine moors.

Selected records

The list below provides details of selected records, including new vice-county records and updates to the national Census Catalogue (identified by an asterisk). The vice-county is given in brackets before each individual record.

Barbilophozia hatcheri: (65) NY8386528241 on sheltered outcrop, Cronkley Fell, A. McLay, 10 December 2016. Only the second VC record since the 1960s of this liverwort, which has a largely montane distribution in Britain.

Bazzania trilobata: (64) SE23967709 Hackfall & Common Wood, Grewelthorpe, C. Halpin, S.V. O’Leary & S.L. Pilkington, 20 June 2021. A large, distinctive liverwort characteristic of old woodland in the uplands, and very scarce in Yorkshire.

Blindia acuta: (64) SE23987711 On rock in woodland path, small plants, Grewelthorpe: Hackfall & River Ure, C. Halpin, S.V. O’Leary & S.L. Pilkington, 20 June 2021; (65) SE1378 Grimes Gill, C. Halpin, S.V. O’Leary & S.L. Pilkington, 24 June 2021. These localities are near the eastern limits of *Blindia* in the Pennines. It is a moss of moist and often slightly base-rich rocks.

Bryum gemmiferum: (65) SE01018852 flushed river bank, Aysgarth & River Ure, C. Halpin, S.V. O’Leary & S.L. Pilkington, 22 June 2021. This moss of bare, open habitats is widely distributed but has very few records in VC65.

Bryum julaceum: (64) SD902805 Yockenthwaite Moor, G. Haycock, 3 April 2021. A rather scarce moss in the Dales, typically on wet rocks in the uplands.

Bryum pallescens: (65) SE138779 in small disused quarry, Pott Ridge, C. Halpin, S.V. O'Leary & S.L. Pilkington, 24 June 2021. Although often found in ruderal habitats, this metal-tolerant moss is sporadic in occurrence and has very few records for VC65.

Calliergon giganteum: (64) SD969617 Linton Moor, G. Haycock, 18 August 2021. A scarce moss of rich-fen.

Chionoloma tenuirostre* var. *tenuirostre (65*) NY8359928554 Fox Earths Gill, 490 m alt., Cronkley Fell, J. O'Reilly, 22 March 2016. A poorly recorded moss in vc 65. There are only very old records from Upper Teesdale.

Colura calyptrifolia: (63) SK2538987647 Rivelin Brook, D.A. Callaghan, 7 December 2020. The remarkable expansion of *Colura* during the past two decades has been noted in previous reports, and its presence near Sheffield is a notable step eastwards for a species once regarded as having a hyper-oceanic distribution.

Dicranum fuscescens: (65) SE1378 Grimes Gill, C. Halpin, S.V. O'Leary & S.L. Pilkington, 24 June 2021. A mainly upland moss of siliceous rocks and tree trunks.

Didymodon ferrugineus: (65) SE2182 Mar Field, S.V. O'Leary & S.L. Pilkington, 23 June 2021. A scarce moss of open calcareous ground.

Didymodon icmadophilus: (65*) SE2176082479 On calcareous soil by stream, Mar Field, S.V. O'Leary & S.L. Pilkington, 23 June 2021. Formerly known as *D. acutus* and considered very rare in Yorkshire, this moss has turned up in many new localities in recent years, often in ruderal habitats.

Ditrichum heteromallum: (65) SE1378 Grimes Gill, C. Halpin, S.V. O'Leary & S.L. Pilkington, 24 June 2021. A mainly upland moss of open ground on base-poor soil.

Ditrichum lineare: (65*) SD68319740 on gritty soil on open bank of stream gully, Cautley Spout, T.L. Blockeel, 14 August 2021.

Entosthodon muhlenbergii: (65) SD94718814 Addleborough, Wensleydale, R. Wilding, 2 June 2021. This moss of open, calcareous soil on limestone is very scarce in VC65.

Entosthodon obtusus: (65) NY82I & NY82J Cronkley Fell, J. O'Reilly, March 2016. A rare moss in Yorkshire, not recorded in the Teesdale portion of VC65 since 1972.

Grimmia torquata (65*) NY8517228007 White Force, 450 m alt., Cronkley Fell, J. O'Reilly, 27 October 2015. Welcome confirmation of an old record from White Force. In Yorkshire this montane *Grimmia* is known only from Upper Teesdale in VC65 and the Ingleton area in VC64.

Heterocladium heteropterum: (64) SE2376 Hack Fall & Common Wood, Grewelthorpe, C. Halpin, S.V. O'Leary & S.L. Pilkington, 20 June 2021; (65) SE1884 Ellington Firth, C. Halpin & S.V. O'Leary, 21 June 2021. Although this is a fairly frequent moss of base-poor rocks in the uplands, these localities are near its eastern limits in the Pennines.

Homomallium incurvatum: (65) SE18978400 Ellington Firth, C. Halpin & S.V. O'Leary, 21 June 2021.

Hylocomium splendens: (63) SE09710437 Holme Moss, S.J. Heathcote, 4 February 2021.

Leucodon sciuroides (65) SE1186 Pinker's Pond, C. Halpin, S.V. O'Leary & S.L. Pilkington, 22 June 2021. A new hectad record.

Marchantia polymorpha* subsp. *montivagans: (64) SD877717 Fountains Fell, G. Haycock, 20 April 2021. This is the montane subspecies of *Marchantia polymorpha*, known in Yorkshire only from a few localities at higher altitudes.

Marchantia quadrata: (65) SE2182 Mar Field, S.V. O'Leary & S.L. Pilkington, 23 June 2021. A low-level site for this mainly upland liverwort.

Odontoschisma sphagni: (64) SE044517 Draughton Moor, G. Haycock, 11 April 2021. A new hectad record for this bog liverwort.

Orthotrichum columbicum: (64*) SE23617723 on near-horizontal branch of willow on low river island, Grewelthorpe: River Ure, S.L. Pilkington, 20 June 2021; (65*) SE21658244 on lower branches of a sycamore tree by the visitor's car park, Mar Field, S.V. O'Leary & S.L. Pilkington,

23 June 2021.

Orthotrichum pallens: (65*) SE21728247 on sycamore and other broadleaves in shelter belt by track, Mar Field, S.V. O’Leary & S.L. Pilkington, 23 June 2021.

Orthotrichum tenellum: (64) SE002637 tree in car park, Grassington, T.L. Blockeel, 12 May 2021. Like many of our epiphytes, an increasing species but still with rather few recent records in the Dales.

Oxyrrhynchium speciosum: (65*) SE181842 on rocks in shaded pool, Ellington Firth, C. Halpin & S.V. O’Leary, 21 June 2021. There are few Yorkshire records for this moss of wet ground but it is probably under-recorded.

Philonotis calcarea: (64) SD6865450408 Heaning Bog, Newton-in-Bowland, T.L. Blockeel, 21 May 2021. Though widely recorded in the Dales, this moss of calcareous flushes and mires is rare in the Bowland Forest enclave of VC64.

Plagiomnium cuspidatum: (65) SE189840 Ellington Firth, C. Halpin & S.V. O’Leary, 21 June 2021. A new hectad record for this scarce moss.

Polytrichum perigoniale: (65*) SD68319742 in thin turf on open bank of stream gully, Cautley Spout, T.L. Blockeel, 14 August 2021.

Racomitrium obtusum: (63*) SD9730 on gritstone in mixed woodland, Hardcastle Crag, Hebden Bridge, T.L. Blockeel, 2004; (64*) SD992743 on face of Millstone Grit crag, Caseker Crag nr Kettlewell, T.L. Blockeel, 2016; (65*) Grimes Gill, C. Halpin, S.V. O’Leary & S.L. Pilkington, 24 June 2021. This is now accepted as a species distinct from *R. heterostichum* s.str., as discussed by Ottley (2021). It is probably frequent in the Pennines, perhaps more so than *R. heterostichum* s.str.

Rhytidium rugosum: (64) SD949711 Hawkswick, G. Haycock, 21 September 2021; (64) SD927724 Littondale, G. Haycock, 22 May 2021. New localities for this very scarce and distinctive moss of stony calcareous ground.

Riccia fluitans: (64*) SE5706448052 & SE5742848197 floating in ditches with duckweed, Askham Bog, Near Wood, T.L. Blockeel & S.J. Heathcote, 17 July 2021. Confirmation of the continuing presence of this aquatic liverwort at this long-known locality.

Scapania gracilis: (65) SE13518202 Birk Gill: Brown Beck, CH2, 23 June 2021; (65) SE1378 Grimes Gill, C. Halpin, S.V. O’Leary & S.L. Pilkington, 24 June 2021.

Scapania irrigua: (65) SE1378 Grimes Gill, C. Halpin, S.V. O’Leary & S.L. Pilkington, 24 June 2021. A new hectad record for this little-recorded liverwort of open but moist base-poor ground.

Scapania nemorea: (65) SE1378 Grimes Gill, C. Halpin, S.V. O’Leary & S.L. Pilkington, 24 June 2021.

Scapania scandica: (65) SE13507819 Grimes Gill, C. Halpin, S.V. O’Leary & S.L. Pilkington, 24 June 2021. A new hectad record for this inconspicuous liverwort of bare acidic soils.

Scapania umbrosa: (65) SE143788 Rocks near stream, Grimes Gill, C. Halpin, S.V. O’Leary & S.L. Pilkington, 24 June 2021.

Schistochilopsis incisa: (63) SE09680439 Bare peat soil with species poor heather, Holme Moss, S.J. Heathcote, 4 February 2021. Only the second post-2000 record for this liverwort in VC63.

Schistostega pennata: (64) SE223444 Danefield, Otley Chevin, G. Haycock, 3 March 2021. Confirmation of this famous luminous moss on Otley Chevin, previously recorded there in the mid 20th century.

Solenostoma paroicum: (65*) SE1478 Grimes Gill, C. Halpin, S.V. O’Leary & S.L. Pilkington, 24 June 2021.

Sphagnum angustifolium (65*) NY82N Cronkley Fell, J. O’Reilly, 27 October 2015; SD68359737 on flushed bank by stream, 240 m alt., below Cautley Spout, Howgill Fells, T.L. Blockeel, 14 August 2021, conf. M.O. Hill. This is the least common of the members of the *Sphagnum fallax* complex, with few Yorkshire records, but perhaps under-recorded.

Sphagnum medium: (64) SD860810, SD859811 & SD859812 Cocklee Fell, Nethergill Farm, G.

Haycock, 1 April 2021. This is the moss formerly known as *S. magellanicum*, generally an indicator of healthy *Sphagnum* bog.

Sphagnum rubellum: (63) SE09810401 Great Dike Edge, S.J. Heathcote, 4 February 2021.

Syntrichia papillosa: (64) SE002637 tree in car park, Grassington, T.L. Blockeel, 12 May 2021; (65) SE19378391 Ellington Firth, C. Halpin & S.V. O’Leary, 21 June 2021; (65) SE1983 High Ellington, C. Halpin, S.V. O’Leary & S.L. Pilkington, 23 June 2021. Although slowly increasing, this remains a little recorded epiphyte in Yorkshire.

Syntrichia ruraliformis: (63*) SE720220 Concrete bridge, Oakhill Nature Reserve, S.J. Heathcote, 3 January 2021. A classic moss of sand dunes, this *Syntrichia* has become more common recently in ruderal habitats inland.

Syntrichia virescens: (65) SE196833 On roof tiles, High Ellington, S.L. Pilkington, 21 June 2021; (65) SE21728247 On a tree, Mar Field, S.V. O’Leary & S.L. Pilkington, 23 June 2021. Although first recognised in Britain from VC65 (in 1958), there have been very few subsequent records in the vice-county. Often growing as an epiphyte it also occurs widely on tarmac and other artificial substrates, and it has a mainly eastern distribution.

Taxiphyllum wissgrillii: (65) SE18988400 Ellington Firth, C. Halpin & S.V. O’Leary, 21 June 2021. Typically occurring on calcareous rocks, but sparsely recorded in VC65.

Ulota crispula: (62*) SE94769836 on *Salix* on wooded stream bank, Helwath Beck, T.L. Blockeel, 2 October 2021; (64*) SE56864788 on Oak, Askham Bog, Far Wood, T.L. Blockeel & S.J. Heathcote, 17 July 2021; (65*) SE1933984057 On sycamore, Ellington Firth, C. Halpin & S.V. O’Leary, 21 June 2021. This recent segregate from *Ulota crispa* is probably widespread but records in the county are still few.

***Weissia angustifolia* s.str.**: (63) SE50781698 on grazed calcareous grassland in upper part of meadow, Thompson’s Meadow Brockadale, S.J. Heathcote, 31 January 2021. Confirmation of this scarce moss at Brockadale based on the revised taxonomy by Callaghan *et al.* (2019).

Thanks are due to all the contributors of records.

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The colonisation and spread of the Mandarin Duck in Nidderdale, with notes on the world population, habitat, diet and nidification.

John R. Mather Eagle Lodge, Aspin Lane, Knaresborough, North Yorkshire. HG5 5EP.

Introduction

The East Asian Mandarin Duck *Aix galericulata* first became naturalised in Britain during the 20th Century, being derived from escaped captive birds and deliberate releases. The population had built up to 1,000 pairs by 1988, mainly in South-east England, and is now much larger and thus significantly important on a World scale. Formerly more widespread in Eastern Asia, this

exotic-perching duck ranges from far eastern Russia through northern China to Japan, where it featured often in art. The wild population is now fragmented and may even be endangered. Large numbers were exported from China in the past and this, coupled with large-scale destruction of the forest habitat over much of its range, has severely reduced the population. The Chinese government imposed an export ban in 1975. The main stronghold is now in Japan on Hokkaido, where the population was 4,500 to 5,000 pairs at the end of the 20th Century. The Chinese population is thought to be fewer than 1,000 pairs and that of eastern Russia around 600 pairs, both declines due to logging and the consequent destruction of old hollow trees.

The Asian birds migrate south over relatively long distances for the winter and this behavioural urge has been recorded for naturalised birds in Britain and Norway. One bird which spent the summer of 1930 in St. James' Park, London, was recovered in Hungary the following April and two birds ringed in Norway on 8 November 1962 were shot next day, still together, in Northumberland, having travelled 900km.

The habitat for this hole-nesting duck is secluded fresh-water lakes, ponds, slow-moving rivers and streams surrounded by damp woodland, Hartwith Mill Dam, three miles west of Ripley, being typical (see below). During the day, after feeding, they spend much time close to or on the bank or perching low in the adjacent woodland. The nest is usually in a tree hole which can vary from 1m to 15m above ground level, rarely on the ground under fallen branches or thick vegetation. Nine to 12 eggs are laid from mid-April and hatch after 30 days, incubation being by the female alone. The ducklings, once dry, have the ability to climb up the near vertical sides of the nest cavity to launch themselves to the ground. Nest holes need not necessarily be close to water and the ducklings, which are nidifugous and precocial, may be walked up to two kilometres to a suitable water. They feed by picking insects, especially Diptera, from the water surface and also take larvae, small fish and aquatic vegetation. They are fully winged and independent at 40 to 45 days old. The diet of the adults is very varied, consisting of aquatic vegetation and seeds, aquatic and terrestrial insects, especially beetles, and also land snails which form an important food source. The autumn and winter diet is supplemented with acorns, small chestnuts, beech mast, maize and corn. Small mammals have also been taken. From mid-May the adults moult and become flightless for one month. The females moult slightly later than the males, whose eclipse plumage is similar to that of the females except for the bill colour, which remains red throughout.

Colonisation and Breeding

The first record in the Harrogate District concerned some pinioned birds which were released onto the lake at Swinton Park near Masham in 1954, when a pair nested and reared one duckling. This unpinioned bird was a female and in 1956 it paired with one of the original pinioned males and nested in a hole in a Beech tree. Ralph Chislett, the then recorder for Ornithology in Yorkshire, visited the site and inspected the nest hole, which was so deep that he could not reach the nest; four young were hatched. Unfortunately, with little observer coverage at that time, no more information was forthcoming and it is not known whether a small population persisted or died out. The first record in Nidderdale was a full-winged drake on the River Nidd at Pateley Bridge on 20 April 1975, having come from a nearby private collection.

It was to be six more years before the Mandarin was seen again in the Dale when, in 1981 at Far-mires Fishery near Lingerfield (now gone), a male stayed into 1982. A fisherman, feeling sorry

for this supposed 'lonely' bird, acquired a full-winged female and released it on the water. The two paired and nested in a large crack in a willow tree but, before the eggs hatched, both birds were killed by a Red Fox *Vulpes vulpes*. A drake was at Hay-a-Park Gravel Pit, Knaresborough, from 12 September 1982 to 4 January 1983, after which there followed a series of records of one to three birds at a few scattered waters up to 1987. During the early 1990s reports were received from wildfowlers at a pond near Pannal, Harrogate, where up to 20 birds were being seen and some were accidentally shot as they flighted in at dusk with Mallards *Anas platyrhynchos*. At this time, 20 to 40 birds were also visiting ponds in the Brimham Rocks area. Between 1993 and 2000, this bird was being seen more widely throughout the district, usually in low single figures.

Since 2001, Mandarin Ducks have been regularly reported in Nidderdale from up to 12 sites annually, some interesting records and maxima being: up to eight visiting garden ponds in Brackenthwaite Lane, Harrogate, during 2006; 25 on the River Nidd at Birstwith on 8 January 2011; up to 40 near Brimham Rocks in March 2013; seven drakes near Goldsborough in mid-May 2017; 30 at Hartwith Mill Dam on 8 February 2015 and 34 there on 28 January 2019, at which site these numbers are being seen regularly during the autumn and winter months. On 8 November 2021, Bobby Evison was watching at the Dam and counted 67 Mandarin Ducks on the water. As he watched, a previously out-of-sight small flock of Mallard took off and with them rose a further 60 Mandarins which were then joined by around 25 more which had been perching in the trees. This unprecedented assembly of 150 plus gives some indication of the remarkable spread and success of Mandarins in the district.

Following the breeding by pinioned birds at Swinton Lake and the attempt at Farmires Fishery, the next known breeding record came in 2004 when a pair nested in a tree hole beside a public footpath at Beckwithshaw, near Harrogate. A female was seen to leave the hole on 6 May with seven ducklings which she then walked to nearby Crimble Beck. Six males were here in April 2005 and two females were at the nest hole on 1 May. The next proof of breeding was at Hartwith Mill Dam in 2015, when a brood of seven ducklings was present in May, followed by breeding at this site in most subsequent years. Since 2015 successful breeding has also occurred at Crimble Beck and in the Nidd Gorge in 2017 and 2018 (three pairs) and on Oak Beck at Knox Mill, Harrogate, in 2019. It was suspected on the River Tutt at Staveley in 2018 and at Ripley Lakes in 2019. In 2020, two pairs stayed at Staveley Nature Reserve from 15 January to 16 March and a lone female was present on many dates to October, but no breeding was proved. During May 2021 three females, whose nest sites were not known, each walked small parties of three or four ducklings to a large farm pond at Bishop Thornton and another had four well-grown ducklings on a nearby beck. More breeding will inevitably take place, depending on the availability of nest sites, as birds occupy the many suitable waters in the district. The provision of nest boxes would be beneficial.

The status of the Mandarin Duck in Nidderdale can be summarised as a locally common, naturalised breeding resident at suitable waters. Some large flocks assemble at favoured places in the non-breeding season and single birds or small parties may occur on any water and at any time. It is now widely distributed throughout Yorkshire. The largest numbers reported in the latest YNU Bird Report for 2017 show maxima of 26 at Hackness Lake, Scarborough, 55 in Troutsdale, 35 at Dam Flask Reservoir, 54 at the stronghold on the River Wharfe at Bolton Abbey and 57 at Lindley Moor Reservoir.

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Yorkshire Plant Gall Recorder's report for 2021

Sam J. Buckton 3 Belle Vue Cottages, Belle Vue Street, York YO10 5LY.

Email: sjb312@cantab.ac.uk

Introduction

2021 has been a year of exciting developments in cecidology in both Yorkshire and Britain more widely. I was humbled to be asked by Tom Higginbottom in the summer if I was interested in succeeding him as YNU's Plant Gall Recorder, and only too keen to accept his offer, being officially sworn in in November. I take this opportunity in the first of my recorder's reports to introduce myself and my current and planned cecidological activities, as well as providing some guidance for Yorkshire gall-recorders and reporting on some recent notable gall and gall-causer records.

I am probably at the younger end of the spectrum when it comes to YNU recorders, and one of my particular aims is to enthuse other young people about natural history in an era when much natural history knowledge is stored in increasingly aged heads; with that said, I find hope in a number of highly talented, up-and-coming young naturalists in Yorkshire, many of them active on social media, and some of whom I have been fortunate enough to engage with. Like a number of them, I am a pan-species lister (<https://www.brc.ac.uk/psl/home>), with a wide taxonomic interest, although one of my main passions is galls and their causers. I am a member of the British Plant Gall Society (BPGS) – like Tom, I will act as a liaison between YNU and BPGS – and a regular contributor to its journal, *Cecidology*. To me, galls epitomise the wonderful complexity, beauty and mystery of ecological interactions, and I find them endlessly fascinating.

Since becoming YNU's Plant Gall Recorder, I have become a verifier on iRecord of Eriophyidae, Phytomyzidae, Cecidomyiidae and Cynipidae for Yorkshire, taking on Cynipidae from Bill Ely, and verified over 2000 Yorkshire iRecord reports in these families, including 250-odd records imported automatically from iNaturalist (<https://www.inaturalist.org/>) into iRecord. This has proven to be a valuable 'trial run' for how a wider BPGS recording scheme on iRecord might function (Buckton, 2022 in press), a plan that has been brewing for some years. It has also revealed a wealth of interesting and notable species records that have not, to my knowledge, been previously reported in *The Naturalist*; Tom did not verify records on iRecord, accepting records via spreadsheets, and there are many recorders who have logged iRecord records without also sending records to Tom. This first report therefore covers all notable records found on iRecord from 2021 to as far back as 1978!

iRecord verifiers' feeds can be set up based either at a family level or at genus and species level (but genera and species cannot be combined with whole families when setting up the feed). For simplicity, my initial feed is at a family level, including four of the most important

gall-causer families. My plan is to eventually expand my iRecord verification remit to the full British checklist of gall-causers (e.g. adding all the gall-causing fungi, sawflies and aphids, as well as other gall mite families); this checklist is currently being compiled, drawing on the forthcoming third edition of Margaret Redfern and Peter Shirley's *British Plant Galls* (Redfern & Shirley, 2022 in press), the bible for British cecidology. This book of keys will hopefully be published this year and I for one cannot wait to see it in print; like its predecessors, it is sure to have a galvanising effect on gall-recording. Much has been added and modified since its last edition (Redfern & Shirley, 2011), including many species confirmed new to Britain; I have been providing feedback on a draft and suggesting various proof-stage edits, particularly in relation to the extreme taxonomic mess of eriophyoid mites causing erineae on *Acer*, a new key to which I have made freely available on the British Plant Galls Facebook Group (<https://www.facebook.com/groups/1649308048444607/files/docs>). Gall observations in Yorkshire have been important for refining both this key and the third edition of *British Plant Galls*, which in turn has led to various species name changes and additions in the UK Species Inventory (UKSI). Frustratingly, UKSI name changes may take a long time before being incorporated into iRecord. iRecord periodically updates its species checklist based on UKSI, but these updates appear to be infrequent. There are plans to make the process more frequent and automatic, but progress on this appears to be in its early stages. In the meantime, iRecord lacks the names of recent additions to the UKSI and still contains large numbers of defunct synonyms, which are frequently used by recorders.

iRecord is much my preferred route for receiving Yorkshire gall records, although records on iNaturalist will also filter through to iRecord. I am happy to assist any recorders in setting up their iRecord account, although it seems to be reasonably intuitive (the website, at least – I am not familiar with the app). iRecord is an increasingly popular, publicly accessible, centralised database of British species records. Many national and local recording schemes now operate via iRecord. Records from iRecord are uploaded periodically to the National Biodiversity Network (NBN) Atlas, making them easily available for scientific research, surveys and policymaking. Based on my experience as a verifier so far, iRecord also creates a valuable platform for dialogue between verifiers and recorders, resulting in a learning process that allows both parties to improve. I should clarify that I am interested in gall-causers as well as galls, and this report deals with both (in what appears to be a break from tradition), even if gall-causers are recorded away from a gall. The distinction between focusing on galls and gall-causers can be a subtle one, and is one that the BPGS (whose name suggests a focus on galls rather than gall-causers!) has discussed in the past. In my opinion, it would seem strange not to consider both, not least because mainstream biological recording is heavily geared towards the recording of species rather than, say, different gall forms, so it helps to align with this approach. An enjoyable aspect of cecidology is that many species can be identified from features of their gall alone (based on previous research linking the species name with the gall), although many galls require examination and/or rearing of the causer anyway to reach a certain species identification. It would not seem a major leap to also record gall-causing species even away from their gall – they will, after all, be associated with a gall somewhere (probably in the vicinity) and at some point in time. Conversely, in many cases gall-based species identification is much easier than causer-based identification; my expertise lies principally in gall-based identification, and I cannot guarantee that I will be able to identify causers (e.g. cynipids) if they are away from their gall, even from a specimen.

An issue with gall-recording is that it overlaps taxonomically with multiple other recording schemes, both in Yorkshire and country-wide. This means that I will need to coordinate with other YNU verifiers (including on iRecord) to ensure that we are aware of our overlap. Overlapping with other verifiers on iRecord is not a problem – verifying a record does not ‘steal’ it from another verifier. It may become more complex when dealing with records submitted via spreadsheets. I intend to use iRecord as a final repository for storing Yorkshire gall records, so it is important that record duplication is avoided by my storing records here.

Number of records verified

This report is largely based on all Yorkshire records of Eriophyidae, Phytoptidae, Cecidomyiidae and Cynipidae on iRecord added in 2021 or earlier. 2818 records had been added on the main iRecord site in this time period. 720 of these (all Cynipidae) had already been verified by Bill Ely and the rest were verified by me. 256 records had been added on iNaturalist in this time period and filtered through to iRecord. 11 of these (all Cynipidae) had already been verified by Bill Ely and the rest were verified by me. I reverified some of Bill’s verified records, e.g. because I redetermined numerous records so that there was a generation (f. sexual or f. agamic) in the species name.

Guidance for gall-recorders: common confusion species

When verifying large numbers of records, it soon becomes clear what the main areas of confusion are for recorders. Although the forthcoming third edition keys contain updates that resolve a few historically tricky groups of gall mites, other updates add extra identification difficulties; I include both types below, arranged in alphabetical order of host plant genus.

Acer

This is perhaps *the* trickiest plant genus in Britain for identifying its eriophyoid mite gall-causers. In particular, there are extreme difficulties regarding causers of erineae on *Acer* and there are many different erineum forms whose causers are uncertain. As previously mentioned, I have produced a new key to these erineae available on the British Plant Galls Facebook group.

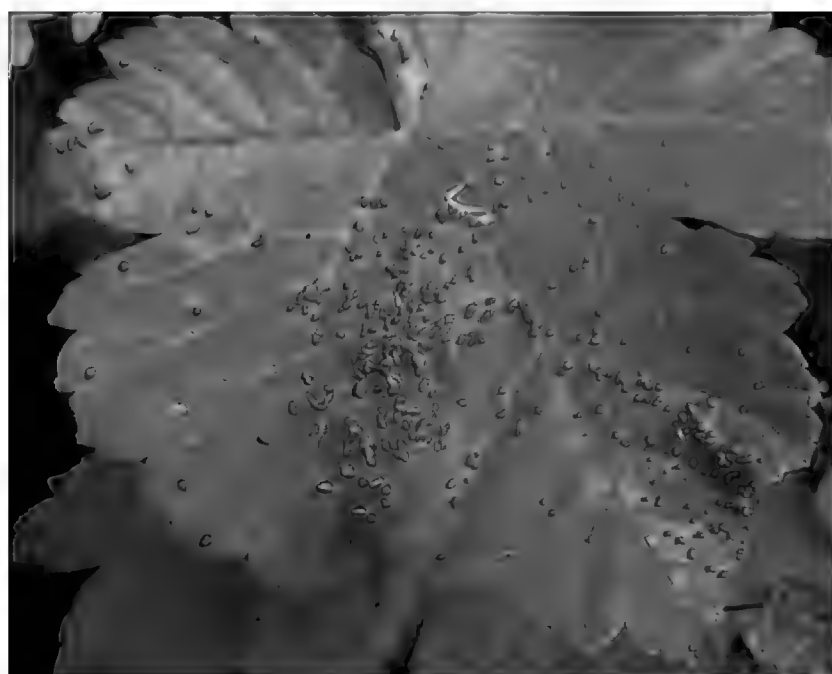
Two other difficult galls to separate on *Acer* are the pustule or nail-like galls of *Aceria cephalonea* and *A. macrorhyncha* (Figure 1, p117). These may be forms of just one species (Redfern & Shirley, 2011), and intermediate forms occur – i.e. between the relatively short rounded pustules of *A. cephalonea*, and the relatively tall pointed nail-like galls of *A. macrorhyncha*. There are many examples from Yorkshire that I have been unable to confidently place in one camp or the other, especially galls from the spring and early summer that may not have yet finished growing, and these I have provisionally rejected as unable to verify. Because this is such a common confusion, Chris Raper has been requested to add a new aggregate taxon to UKSI, ‘*Aceria cephalonea* agg.’, that uncertain cases can eventually be redetermined to. There have nonetheless been some examples, especially from later on in the summer, that are more clearly at one end of the *cephalonea-macrorhyncha* spectrum and I have accepted, albeit after redetermining the recorder’s initial identification in some cases.

Alnus

Eriophyoids are also problematic on alders. Redfern & Shirley (2011) note that erineae on *Alnus* with a hair shape different to that provided for *Acalitus brevitarsus* are caused by other mite species, and this footnote has been carried through to the third edition key. Roskam (2019) notes various possible species other than *A. brevitarsus* known to cause erineae on Alder *A. glutinosa*, including *Acalitus phyllereus* and several as-yet-unnamed species. They all appear

to differ in the erineum hair shape. To be cautious and consistent with the third edition key, I have been only accepting *A. brevitarsus* records if the hairs have been checked, given that the hair shape appears to be a good distinguishing character (the reliability of the degree of leaf bulging, which has been noted by some as more prevalent in *A. brevitarsus*, as a distinguishing character is unknown). Chris Raper has added a new aggregate name, '*Acalitus brevitarsus* agg.', to UKSI, and when this filters through to iRecord I will redetermine and accept uncertain records of *A. brevitarsus* as the aggregate.

There is also a nomenclatural and technical (rather than identification) issue regarding mite galls in vein angles on *Alnus*. What was called *Aceria nalepai* is now called *Eriophyes inangulis* in the third edition key. One of these two species may in fact be an inquiline in the galls of the other. Which way round the naming goes is currently arbitrary as there appears to be no convincing evidence either way, so for simplicity the third edition key aligns with Willem Ellis' website Bladmineerders (<https://bladmineerders.nl/>) in calling the gall-causer *E. inangulis* and the potential inquiline *A. nalepai*. Unfortunately, *E. inangulis* is currently treated as a synonym of *A. nalepai* in UKSI (and iRecord), so if I try to redetermine a record of *A. nalepai* to *E. inangulis* in iRecord, it defaults to *A. nalepai* again! Chris Raper has been asked to remove the current synonymy in UKSI; when this filters through to iRecord, I will redetermine all records of *A. nalepai* to *E. inangulis* unless they are referring specifically to an inquiline in the gall (which is highly unlikely).



Left: Figure 1. *Aceria macrorhyncha* galls can be tricky to distinguish from those of *A. cephalonea* on Sycamore *Acer pseudoplatanus*. There are probably some *A. macrorhyncha* galls in this photo, but some of the galls look more like those of *A. cephalonea*, with others intermediate-looking. Museum Gardens, York, 17/05/2018 (iRecord record ID 6676503). Photo: Stuart Ogilvy

Right: Figure 2. Gall of *Andricus infectorius* on oak *Quercus* sp., Addingham, 19/09/2020 (iRecord record ID 17879214). Photo: Karen Bullimore

Crataegus

The only confusion I have noticed on *Crataegus* is between the eriophyid *Eriophyes crataegi* and the fungus *Taphrina crataegi*, with the latter misidentified as the former. *T. crataegi* galls

tend to be relatively large, reddened or yellowed blisters, compared to the smaller, neater raised pocks of *E. crataegi*.

Populus

I have not been able to accept any records of *Phyllocoptes populi* from Yorkshire so far, despite all of them having photos, because of potential confusion with galls of *Aceria varia*. *A. varia* is included in Redfern & Shirley (2011) as well as the forthcoming third edition key. I will only accept records with the erineum hairs examined and ideally photographed. *P. populi* hairs are ‘broadened at the tip’, whilst *A. varia* hairs are ‘each a short branched tuft’ (Redfern & Shirley, 2011).

Quercus

The realisation that the agamic generation of *Andricus infectorius* is present across England (e.g. see Leach, 2020; Higginbottom, 2021) has implications for identifying the agamic generation marble galls of the similar *A. kollari*. *A. infectorius* is included in the forthcoming third edition key and distinguishing its galls from those of *A. kollari* seems to be possible but sometimes tricky (it would probably be Grade 3 in a Recording Grade system – see following section). A future *Cecidology* paper will provide guidance on distinguishing these two galls. I have been unable to verify the majority of *A. kollari* records from Yorkshire because of not being able to see all parts of the gall, especially the attachment point, clearly enough (and records without photos are particularly ambiguous). There has been only one record from Yorkshire that I could name as *A. infectorius* with reasonable confidence (Figure 2, p117). Chris Raper has been requested to add an aggregate name, ‘*Andricus kollari* agg.’, to UKSI; I will eventually redetermine unverifiable *A. kollari* records to this aggregate. Furthermore, there has been occasional confusion between oyster galls of *Neuroterus anthracinus* and the red pea gall of *Cynips divisa* (the agamic generation in both cases). Photos should ideally show the gall attachment point clearly from the side, as the two flaps of tissue either side of the ‘oyster’ are a clinching feature of *N. anthracinus* and can even indicate the presence of this species after the oyster has dehisced. I also find that red pea galls tend to lengthen perpendicular to the midrib or vein on which they grow, whilst oyster galls tend to be lengthened parallel to the midrib/vein.

As a general comment, relevant particularly to cynipid galls on oak, I remind recorders to please include the wasp generation when they choose the species name (names with ‘f. agamic’ or ‘f. sexual’ are available on iRecord). This can reduce ambiguity and also increases data resolution, enabling us to investigate ecological questions about the wasp generations as well as the species. It saves me having to redetermine records as the generation-specific names!

Rosa

The difficulty of identifying the causer of smooth pea galls on *Rosa* appears to be well-known amongst recorders, but there has still been the odd case where the causer of such galls is named *Diplolepis eglanteriae*. Recorders are reminded that the causer of smooth pea galls needs to be reared to distinguish from *D. nervosa*. I have redetermined records of smooth pea galls as ‘*Diplolepis eglanteriae* agg.’ (encompassing both *D. eglanteriae* and *D. nervosa*), which is already available as a name on iRecord. As far as we know, the causer of spiky pea galls can be named confidently as *D. nervosa*.

Salix

Galls of the eriophyid *Aculus laevis* can appear superficially similar to those of the cecidomyiid *Iteomyia capreae*, especially when viewed from above, or even *Aceria iteina*. Photos should ideally show the leaf underside, when the conical projections of *I. capreae* galls, like miniature volcanoes, become obvious in comparison to the hairy openings of *A. laevis* galls. Photographs from the side could help to distinguish the relatively tall, 'stalked' *A. iteina* galls. If photos are not included, the recorder should be asked if they know how to separate these species.

Cecidomyiids causing leaf margin rolls on *Salix* are probably a trickier group to identify than implied by Redfern & Shirley (2011). Two Yorkshire records of *Dasineura marginemtorquens* – called *Rabdophaga marginemtorquens* in the forthcoming third edition keys – from the 1970s on Crack Willow *Salix x fragilis* prompted a discussion with Margaret Redfern, Peter Shirley and Brian Spooner about this and the two similar species, *Dasineura auritae* and *Dasineura clausilia* (the latter is called *Rabdophaga clausilia* in Redfern & Shirley (2011)). Redfern & Shirley (2011) separate these species largely on the basis of the host plant, with *D. auritae* on willows, *R. marginemtorquens* on Osier *S. viminalis* and *R. clausilia* on White Willow *S. alba*. However, the host ranges of these species overlap in mainland Europe. According to Bladmineerders, hosts of *R. marginemtorquens* include willows, White Willow and Crack Willow as well as Osier and various other *Salix* species, while hosts of *D. clausilia* include willows as well as White Willow and several other *Salix* species (*D. auritae* does appear to be restricted to willows). Although these wider host ranges have not yet been proven in Britain, it seems unwise to continue separating the causers based on the host plant given what is known in mainland Europe (i.e. the host range may appear restricted in Britain because the host range is used to define the causer!). I have not been accepting records of these three midge species unless the larvae have been closely examined (see Bladmineerders for larval characters), which has never been the case. A footnote about the need to check the larvae will hopefully be added to the forthcoming third edition key.

Sorbus

There appears to be a systematic confusion online between galls of *Phyllocoptes sorbeus* and *Eriophyes pyri* on Rowan *Sorbus aucuparia*. All of the Yorkshire records of *P. sorbeus* that I have seen so far on iRecord have been misidentified *E. pyri*. Presumably helping to perpetuate this issue is the fact that all records of *P. sorbeus* that I have seen on iSpot (<https://www.ispotnature.org/>) and iNaturalist show *E. pyri*. The widely used website NatureSpot (<https://www.naturespot.org.uk/>) also featured *P. sorbeus* showing what is actually *E. pyri*. True *P. sorbeus* galls look quite distinct from those of *E. pyri* (Figure 3, p121); this is shown by Fig. 1071 in Redfern & Shirley (2011), as well as a small number of photos online (e.g. see <https://www.naturbasen.dk/art/13397/roennefiltgalmide>). *P. sorbeus* galls are erineae, often extensive, that do not cause significant bulging of the leaf, whereas *E. pyri* galls tend to be smaller, scattered, raised (but slightly flattened-looking) pustules.

Tilia

Recorders will be pleased to know that recording eriophyid galls on *Tilia* has become simpler in the simpler forthcoming third edition key, although the key is still tentative. *Eriophyes lateannulatus* has been synonymised with *E. tiliae*, following Bladmineerders, so nail galls on Large-leaved Lime *T. platyphyllos*, Small-leaved Lime *T. cordata* and hybrids between them can all be named *E. tiliae* (previously, *E. tiliae* could only be applied to nail galls on Large-leaved

Lime and *E. lateannulatus* to nail galls on Small-leaved Lime, with either potentially occurring on hybrids). Moreover, *E. leiosoma* has been synonymised with *E. exilis*, again following Bladmineerders.

Recording Grades

A possible tool to help recorders and verifiers understand the level of information needed for a species-level identification (including for the confusion species listed above) is to use a Recording Grade 1-5 system, as used by Barry Warrington for his Agromyzidae recording scheme, for instance (see <https://agromyzidae.myspecies.info/node/3>). Table 1 shows how these Grades might be applied to a plant gall recording scheme (specifically, to the gall-causers). They should be treated as general rather than rigid guidance, as if galls are atypical (e.g. they are in an unusual place, immature, old or damaged) then a higher Grade than usual may be applicable. It may be the case that a gall-causer has a different Grade depending on its host (Barry would write this as Grade 3,5 for example – Grade 3 on one host and 5 on another). I may develop the Recording Grades for use in Yorkshire over the coming years and potentially for cecidological recording in Britain more widely too.

Table 1. Suggested Recording Grades for a plant gall-causer recording scheme, focusing particularly on invertebrate and fungal gall-causers.

Recording Grade	Information needed for species-level identification	Example(s)
1	Easily identifiable from gall even by inexperienced recorders.	<i>Neuroterus numismalis</i> f. agamic
2	Identifiable from gall, but care should be taken due to possibility of other causers.	<i>Aculus laevis</i>
3	Identifiable with difficulty from gall; multiple aspects of gall may need to be examined. Rearing or examination of larva, puparium or fungal spores is ideal.	<i>Andricus infectorius</i> ; <i>Phragmidium bulbosum</i>
4	Examination of larva, puparium or fungal spores is essential.	<i>Ozirhincus hungaricus</i> ; <i>Phragmidium tuberculatum</i>
5	Rearing of adult material is essential.	<i>Diplolepis eglanteriae</i>

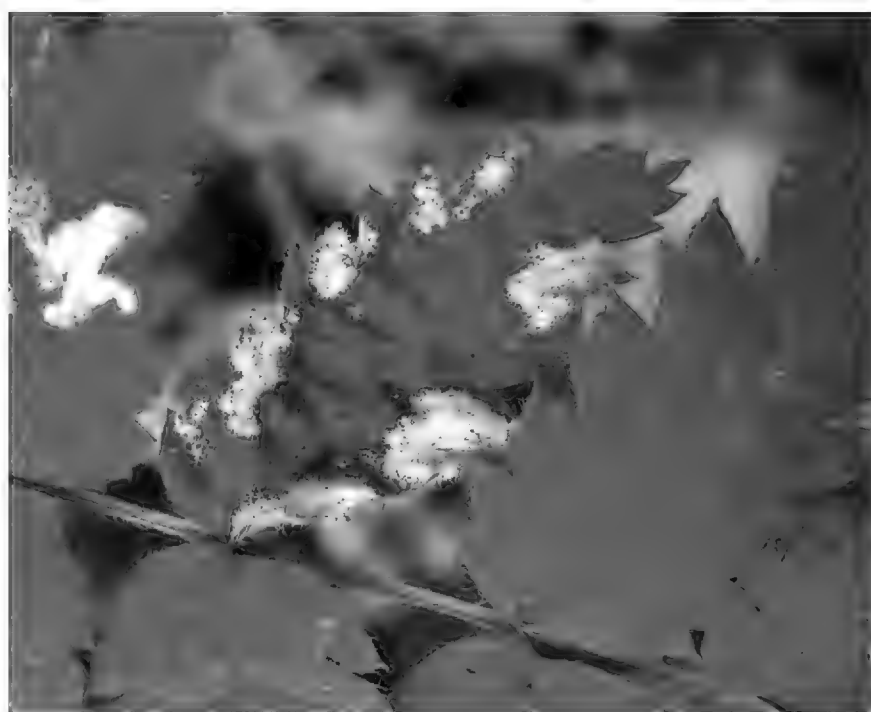
Notable records

One of the highlights of being a verifier on iRecord is coming across an unusual species in the records. It feels almost as exciting as recording the species oneself in the field. In this section I describe some of the more notable gall(-causer) records that I have come across in the iRecord records I have verified from 2021 and prior to this. Because my iRecord verification feed currently only includes Eriophyidae, Phytoptidae, Cecidomyiidae and Cynipidae, I have not yet addressed notable gall-causers in other families (e.g. Aphididae), and I have not been sent any notable records outside of iRecord.

The true significance of gall records can be difficult to determine due to under-recording and the difficulty of access to records. However, I have checked the BPGS database where appropriate (this contains numerous records not shared with other databases, but omits many records present in other databases). The entire BPGS database (currently on MapMate) will eventually

be added to iRecord, which will help to centralise existing gall records (I have been assisting in this migration process – I hope it may be achieved this year). Andrew Grayson’s Yorkshire Diptera checklist has been invaluable for assessing the significance of cecidomyiid records, and Bill Ely’s Yorkshire Cynipoidea checklist and records have also been useful for evaluating cynipid records. I have also checked iRecord and NBN Atlas for other records.

All bar one of the records (*Contarinia solani*) can be found by querying the iRecord database; I have included record IDs for each record for ease of searching. In each entry I include (in order) the causer name, record ID(s), location, vice-county (VC), recorder and notes. Species names followed by an asterisk (*) are new to the vice-county; those followed by two asterisks (**) are new to all Yorkshire.



Left: Figure 3. A ‘true’ gall of *Phyllocoptes sorbeus* on Rowan *Sorbus aucuparia*.
Photo: Hans Henrik Bruun.

Right: Figure 4. Galls of *Aceria laticincta* on Yellow Loosestrife *Lysimachia vulgaris*, Potteric Carr, 13/08/2021 (iRecord record IDs 21590957 and 21590958). Photo: Jim Horsfall.

ERIOPHYIDAE

Aceria hippophaena* ID 21103559 19/07/2021 Portrack Marsh, Middlesbrough (NZ46421938) VC62 Jill Cunningham. ‘Galls seen on about 10 leaves of Sea Buckthorn [*Hippophae rhamnoides*] on one tree.’ There are previous records of this species from VC63 in 2010 and 2011 in the BPGS database.

Aceria labiatiflorae* (originally recorded as *A. origani*, redetermined to the more up-to-date name by the author) ID 14522291 26/06/2020 Town Close Hills SSSI (SE405303) VC64 David Broughton. Galls on Marjoram *Origanum vulgare*; described by David as ‘locally frequent’. The only previous Yorkshire record of this species seems to be from VC63 in 1989 (BPGS database).

Aceria laticincta** IDs 21590957 and 21590958 13/08/2021 Potteric Carr (Piper Marsh Scrub SE60350010 and East Scrape SK60549970, respectively) VC63 Jim Horsfall. Galls on Yellow Loosestrife *Lysimachia vulgaris* (Figure 4, p121). Described as ‘rare’ in the forthcoming third

edition keys of *British Plant Galls* (Redfern & Shirley, 2022 in press). This appears to be the first record for Yorkshire, and perhaps only the fourth or so record for Britain; there is only one previous record in the BPGS database, by Dr. C.R. Pope on the Isle of Wight in 2004, although there is an additional record from 2020 in Glamorganshire by George Tordoff on iRecord (the record is unverified, but is accurate, with clear photos of the galls), and Bagnall & Harrison (1917) recorded it from Gibside, County Durham (VC66), misspelt as *Eriophyes laccinatus*. The gall is also known from Creeping Jenny *L. nummularia* in Britain. The record represents a major northward extension of the mite's known distribution.

Aceria sanguisorbae** ID 18224849 07/07/2020 Fordon Banks (TA05457513) VC61 Daniel Lombard. Galls presumably on a *Sanguisorba* sp. Although there are numerous records of this species in the BPGS database, there are none from Yorkshire.

Aceria silvicola** ID 12200745 09/11/2019 Askham Bog (SE575479) VC64 Sam Buckton. This record is interesting not only because of the gall's apparent rarity in Britain but because the galls were certainly not on Stone Bramble *Rubus saxatilis*, the host noted in Redfern & Shirley (2011), nor any of the other brambles noted as hosts by Bladmineerders, including Arctic Bramble *R. arcticus*, Evergreen Blackberry *R. laciniatus* and Pacific Blackberry *R. ursinus*. Although the host was not identified to species level, it is probably Bramble *R. fruticosus* agg. (Figure 5). John Meiklejohn tentatively recorded *A. silvicola* on '*Rubus fruticosus*' [sic] from Worcestershire (VC37) in 2003, listed in an unpublished list of British gall mites compiled by John Robbins as 'galls very similar to those of *A. silvicola* on *Rubus saxatilis*' (Brian Spooner, pers. comm.); it is not stated why the record is tentative (i.e. whether it is because of the causer or the host), but it may be that Meiklejohn had a similar case to mine and was wary of Bramble being an unusual host for *A. silvicola*. My observation would appear to corroborate Meiklejohn's. *R. fruticosus* agg. is thus apparently a new host for *A. silvicola*, although mite examination would be ideal to confirm the causer. There are only four previous records of *A. silvicola* in the BPGS database, from East Sussex and Surrey, most recently recorded in 2006; my record is the only one on iRecord and apparently new to Yorkshire, another substantial northward extension of a gall-causer's distribution. I have suggested an additional footnote to the entry for *A. silvicola* in the forthcoming third edition key noting the possibility of a greater host range than Stone Bramble in Britain.

Aculops macrotrichus** ID 820232 07/09/2013 Oxley Bank Wood, Bretton Country Park (SE2812) VC63 Bill Ely. Gall on Hornbeam. This appears to be a rarely recorded species in Britain. There is a small scattering of records across England, but none previously from Yorkshire.

CECIDOMYIIDAE

Contarinia arrhenatheri** ID 5990133 18/06/2017 Wheldrake village (SE677448) VC61 Julian Small. A female was observed ovipositing in flowers of False Oat-grass *Arrhenatherum elatius*. Although this midge is not considered a gall-causer (it lives in the inflorescence of False Oat-grass), it came up in my verification feed and would have otherwise likely gone largely unnoticed, so I mention it here (eventually, non-galling species such as this in typically gall-causing families will probably not be included in my remit). It is also an example of a non-galling species with a close plant association that cecidologists can be on the lookout for in the field. It is new to Yorkshire and, presumably, rarely recorded nationally. I have suggested a footnote addition to the Poaceae key in Redfern & Shirley (2022 in press) about the potential of finding this midge on *Arrhenatherum*.

Contarinia solani** 17/07/2021 Near Middle Wood, Askham Bog (SE572482) VC64 Sam Buckton. Galls on Woody Nightshade *Solanum dulcamara*. This is probably a mostly southerly

species in Britain, although considerably under-recorded; I have found this gall new to several vice-counties just by searching the first patch of Woody Nightshade that I come across. However, I have failed to find it in northerly locations such as the Solway Firth and the southern shores of Loch Lomond despite thorough searching – perhaps Yorkshire is near its northern limit?

Dasineura tortilis ID 3029150 11/07/2012 North Wood LWS (SE276049) VC63 Derek Whiteley. Gall on Alder. Noted as ‘uncommon’ in Redfern & Shirley (2011) and the forthcoming third edition key and appears to be the first Yorkshire record since 1997. There are only six previous records in the BPGS database, the most recent from 2011 (the historical Yorkshire records are not included in the database). There are two other (unverified) records of *D. tortilis* on iRecord, also absent from the BPGS database.



Left: Figure 5. Galls of *Aceria silvicola* on what is probably Bramble *Rubus fruticosus* agg., Askham Bog, 09/11/2019 (iRecord record ID 12200745). Photo: Sam Buckton.

Right: Figure 6. Galls of the agamic generation of *Andricus malpighii* on oak *Quercus* sp. (perhaps Sessile Oak *Q. petraea*), High Wood, Bilsdale, 06/10/2021 (iRecord record ID 23180315). Photo: Sam Newton.

Dasineura tortilis ID 3029150 11/07/2012 North Wood LWS (SE276049) VC63 Derek Whiteley. Gall on Alder. Noted as ‘uncommon’ in Redfern & Shirley (2011) and the forthcoming third edition key and appears to be the first Yorkshire record since 1997. There are only six previous records in the BPGS database, the most recent from 2011 (the historical Yorkshire records are not included in the database). There are two other (unverified) records of *D. tortilis* on iRecord, also absent from the BPGS database.

Drisina glutinosa (originally recorded as *Dasineura tympani*, redetermined by the author; *D. tympani* is only on Field Maple *Acer campestre*) ID 15241438 16/07/2020 Upper Porter Valley, Sheffield (SK29088434) VC63 Andrew Watchorn. Galls on Sycamore *A. pseudoplatanus*. This is the first record of *D. glutinosa* for Yorkshire since pre-2007; there do not seem to be well-defined records prior to this (and there are no Yorkshire records of this species in the BPGS database).

Jaapiella bryoniae ID 7842264 16/07/2017 Brockadale Nature Reserve (SE5017) VC63 Dave Higginson-Tranter. Host not recorded but presumably White Bryony *Bryonia dioica*. *J. bryoniae* galls are local nationally, known only in VC63 and VC65 in Yorkshire.

Planetella cornifex* ID 13162319 09/06/2019 East Cottingwith Orchid Field (SE698411) VC61 Julian Small. Adult male caught in malaise trap. This appears to be the first record of *P. cornifex* for VC61 and the first Yorkshire record since 1953. It is probably greatly under-recorded nationally; it has no records in the BPGS database and no other records on iRecord. It probably galls various sedges. *P. cornifex* is not mentioned in Redfern & Shirley (2011) but is included in the forthcoming third edition key, in which there has been a major revision of *Planetella* species on *Carex* thanks especially to the work of Sebastien Carbonelle.

Rabdophaga iteobia ID 660076 18/05/2013 Cromwell Bottom LNR (SE125219) VC63 Bill Ely. Gall on willow. This is the first Yorkshire record since 1923 (which was also in VC63).

Wachtliella stachydis ID 813892 05/09/2013 Shiptondale Farm, NE verge of Warter Road (nr. Pocklington, SE904501) VC61 Bill Ely. Gall on Hedge Woundwort *Stachys sylvatica*. The first Yorkshire record since 1988 of this gall, which is described as 'local' in Redfern & Shirley (2011) and the forthcoming third edition key.

CYNIPIDAE

Andricus callidoma ID 13079134 18/08/2018 Skipwith Common, Hollow Swang (SE666370) VC61 Julian Small. A male of the sexual generation caught in a malaise trap. The sexual generation gall is described as 'rare' in Redfern & Shirley (2011) and the third edition key – there are only two records of the sexual generation in the BPGS database and neither of them from Yorkshire – although it may be under-recorded because its galls are often high up in the crown of trees (Redfern & Shirley, 2022 in press). There are various previous records of *A. callidoma* in Yorkshire (generation not specified, although presumably agamic).

Andricus infectorius (originally recorded as *Andricus kollari* and accepted as correct by Bill Ely, understandably given our lack of knowledge about *A. infectorius* at that time; redetermined by the author) ID 17879214 19/09/2020 Addingham (SE070506) VC64 Karen Bullimore. Gall of the agamic generation on oak (Figure 2, p117). There is now a scattering of records of this gall across Britain, including the Midlands, far south-west and Yorkshire (Leach, 2020; Higginbottom, 2021). Accepted as correct; a photo was provided of a single gall that showed narrowing by the attachment point, and the gall also had 'pimples' arranged in a rough crown shape, with a slight raised ridge connecting the pimples.

Andricus malpighii ID 23180315 06/10/2021 High Wood, Bilsdale (SE581976) VC62 Sam Newton. Galls of the agamic generation on oak – perhaps Sessile Oak *Q. petraea* based on the photos provided (Figure 6). The *A. malpighii* agamic generation gall is described as 'rare' in Redfern & Shirley (2011) and the forthcoming key, although there are numerous previous Yorkshire records.

Acknowledgements

I am grateful to the many people who have submitted Yorkshire gall records on iRecord and iNaturalist, including Karen Bullimore, Tim Burkinshaw, Jerry Clough, Jill Cunningham, Bill Ely, Dave Higginson-Tranter, Jim Horsfall, Robert Jacques, Paula Lightfoot, Daniel Lombard, Steve J. McWilliam, Sam Newton, Stuart Ogilvy, Richard Shillaker, Julian Small, Andrew Watchorn and Derek Whiteley. Keep up the good work! My thanks also to Tom Higginbottom for giving me the opportunity to succeed him as Yorkshire Plant Gall Recorder, to Bill Ely and Barry Warrington for

advice on verifying, and to Chris Raper for quickly and helpfully responding to UKSI requests. Jerry Bowdery, Margaret Redfern, Peter Shirley and Brian Spooner gave valuable comments on drafts of this article.

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Yorkshire Heteroptera – Part 2

Cimicomorpha 1 – Tingioidea, Cimicoidea, and Reduvioidea – Miroidea - Microphysidae

Stuart Foster 128 Lyndale Avenue, Edenthorpe, Doncaster, South Yorkshire DN3 2JX

Introduction

The Cimicoidea, Reduvioidea, Microphysoidea, Miroidea and Naboidea are Superfamilies of the Infraorder Cimicomorpha within the suborder Heteroptera of the Hemiptera. The Tingidae (Miroidea) are phytophagous and, although some species cause leaf damage when feeding, few are agricultural or horticultural pests in Britain; the Cimicoidea, Microphysoidea, Naboidea and Reduvioidea are entomophagous with the exception of *Cimex* which is haematophagous, feeding on humans, bats and birds. In Britain there are 95 recorded species representing 7 families; at present 68 of these are recorded from Yorkshire. Overall the number of records held by the YNU is insufficient to truly represent current distribution and status.

The following list is the second of six parts which represent all currently recorded Yorkshire Heteroptera together with associated Vice Counties, statuses, hosts/habitats and years for the first and latest records. The host data are indicative only as some overwinter as adults on evergreen plants, shrubs and trees, while continental food plants may differ from British records, and some are poly-phytophagous. Some species can only be identified by dissection of male specimens. Consequently where the female cannot be reliably identified, or where specimens are unavailable for examination, such records are indicative only and may not have been validated. Several historic records fall into this group.

The status convention is based on: 1 to 9 records = Rare; 10 to 24 = Scarce; 25 to 49 = Uncommon; 50 to 99 = Frequent; 100 to 199 = Common; 200 or more = Very Common.

The taxonomy of European Hemiptera is relatively well documented for many countries (Aukema and Rieger, 1996; Aukema *et al.*, 2013). The Bibliography below includes publications which may assist in the identification of specimens.

Infraorder: Cimicomorpha

Superfamily: Miroidea

Family: TINGIDAE Laporte, 1832

Subfamily: TINGINAE Laporte, 1832

Acalypta brunnea (Germar, 1837)

VC62, VC64: rare, moss on tree trunks and stumps, pre 1940-1980.

Acalypta carinata (Panzer, 1806)

VC62, VC64, VC65: rare, moss on rotting logs, 1966-1988.

Acalypta parvula (Fallén, 1807)

VC61, VC62, VC63, VC65: uncommon, short moss on free draining soils, 1929-2020.

Agramma laetum (Fallén, 1807)

VC63: rare, salt marshes and damp woodland on sedges, woodrushes and rushes, 1990-1992.

Campylosteira verna (Fallén, 1826)

VC63: rare, a single record, moss on calcareous downs, 2000.

Catoplatus fabricii (Stål, 1868)

VC63: rare, Ox-eye Daisy *Leucanthemum vulgare*, 1990-2010.

Derephysia foliacea foliacea (Fallén, 1807)

VC61, VC62, VC63, VC64: scarce, Ground Ivy *Glechoma hederacea*, 1920-2017.

Dictyla convergens (Herrich-Schaeffer, 1835)

VC61, VC63, VC64: scarce, Water Forget-me-not *Myosotis scorpioides*, 1978-2017.

Dictyonota fuliginosa A. Costa, 1853 (see Fig. 1, p129)

VC63: rare, Broom *Cytisus scoparius*, 1987-2016.

Dictyonota strichnocera Fieber, 1844

VC61, VC63: uncommon, Broom and Gorse *Ulex europaeus*, 1931-2018.

Kalama tricornis (Schrank, 1801)

VC61, VC62, VC63: rare, chalk downs and sandpits on low growing vegetation, 1952-2014.

Physatocheila confinis Horváth, 1905

VC61, VC63: rare but easily confused with *Physatocheila dumetorum*, on Hawthorn *Crataegus monogyna*, 2014-2021.

Physatocheila dumetorum (Herrich-Schaeffer, 1838)

VC63: rare but records require verification due to confusion with *Physatocheila confinis*, on Hawthorn, 2008-2019.

Stephanitis takeyai Drake & Maa 1955

VC63: rare, introduced pest on *Pieris japonica*, 2013-2020.

Tingis ampliata (Herrich-Schaeffer, 1838)

VC61, VC62, VC63, VC64, VC65: common, Creeping Thistle *Cirsium arvense*, 1937-2020

Tingis cardui (Linnaeus, 1758)

VC61, VC62, VC63, VC64, VC65: common, Spear Thistle *Cirsium vulgare*, 1936-2019.

Superfamily: Naboidea
Family: NABIDAE A. Costa, 1953
Subfamily: NABINAE A. Costa, 1853
Tribe: NABINI A. Costa, 1853

Himacerus (Anaptus) major (A. Costa, 1842)

VC61, VC62, VC63, VC64, VC65: common, predator, in grassy places, 1936-2019.

Himacerus (Stalia) boops (Schjødt, 1870) (see Fig 2, p129)

VC61, VC63: rare, ground dwelling predator, on heaths, 1971-1991.

Himacerus apterus (Fabricius, 1798)

VC61, VC62, VC63, VC64: common, predator, on trees and shrubs, 1978-2021.

Himacerus mirmicoides (O. Costa, 1834)

VC61, VC63: frequent, predator, herbage in hedgerows and fields, 2003-2021.

Nabis (Dolichonabis) limbatus Dahlbom, 1851

VC61, VC62, VC63, VC64, VC65: very common, predator, damp meadows and rank vegetation, 1930-2021.

Nabis (Limnonabis) lineatus Dahlbom, 1851

VC61, VC63: scarce, predator, in marshes, 1936-2017.

Nabis (Nabicula) flavomarginatus Scholtz, 1847

VC61, VC62, VC63, VC64, VC65: very common, predator, meadows and rank vegetation, 1932-2020.

Nabis brevis brevis Scholtz, 1847

VC62, VC63: rare, only two records, predator, marshes in heaths and bogs, 1935-2005.

Nabis ericetorum Scholtz, 1847

VC61, VC62, VC63, VC64, VC65: uncommon, predator, heathland, 1930-2017.

Nabis ferus (Linnaeus, 1758)

VC61, VC62, VC63, VC64: common, predator, dry meadows and heaths, 1925-2021.

Nabis rugosus (Linnaeus, 1758)

VC61, VC62, VC63, VC64, VC65: common, predator, wherever grass grows, 1935-2021.

Superfamily: Cimicoidea

Family: ANTHOCORIDAE Fieber, 1836

Subfamily: ANTHOCORINAE Fieber, 1836

Tribe: ANTHOCORINI Fieber, 1836

Acompocoris alpinus Reuter, 1875

VC61, VC62, VC63: scarce, conifers, 1987-2019.

Acompocoris pygmaeus (Fallén, 1807)

VC61, VC62, VC63, VC64, VC65: uncommon, mainly Scots Pine *Pinus sylvestris*, 1920-2016.

Anthocoris amplicollis Horváth, 1893

VC62: rare, on Ash *Fraxinus excelsior*, 1978-1991.

Anthocoris butleri Le Quesne, 1954

VC61, VC62, VC63: rare, on Box *Buxus sempervirens*, 1975-2015.

Anthocoris confusus Reuter, 1884

VC61, VC62, VC63, VC64, VC65: very common, deciduous trees, 1920-2020.

Anthocoris gallarum-ulmi (DeGeer, 1773)

VC61, VC62, VC63, VC64: uncommon, Elm *Ulmus procea*, 1935-2020.

- Anthocoris limbatus*** Fieber, 1836 (see Fig. 3, p129)
VC63, VC64: rare, willows, 1968-2021.
- Anthocoris minki minki*** Dohrn, 1860
VC61, VC63: rare, Black Poplar *Populus nigra*, 1987-2017.
- Anthocoris nemoralis*** (Fabricius, 1794)
VC61, VC62, VC63, VC64, VC65: very common, deciduous trees and low growing vegetation, 1921-2021.
- Anthocoris nemorum*** (Linnaeus, 1761)
VC61, VC62, VC63, VC64, VC65: very common, deciduous trees and low growing vegetation, 1920-2021.
- Anthocoris sarothamni*** Douglas & Scott, 1865
VC61, VC62, VC63: uncommon, Broom, 1937-2020.
- Anthocoris simulans*** Reuter, 1884
VC61, VC62, VC63, VC64, VC65: scarce, Ash, 1960-2006.
- Dufouriellus ater*** (Dufour, 1833)
VC61, VC63: rare, beneath bark and fungi riddled timber, 1985-2011.
- Elatophilus nigricornis*** (Zetterstedt, 1838)
VC62, VC64: rare, Scots Pine, 1937-1980.
- Temnostethus gracilis*** Horváth, 1907
VC61, VC62, VC63, VC64, VC65: scarce, lichen covered trunks of deciduous trees, 1962-2010.
- Temnostethus pusillus*** (Herrich-Schaeffer, 1835)
VC61, VC62, VC63, VC64, VC65: uncommon, lichen covered trunks of trees, 1932-2019.
- Tetraphleps bicuspis*** (Herrich-Schaeffer, 1835)
VC62, VC63, VC64, VC65: scarce, conifers, 1937-2019.
- Tribe: CARDIASTETHINI Carpintero & Dellapé, 2008
- Brachysteles parvicornis*** (A. Costa, 1847)
VC61: rare, a single record, hedgerow vegetation, 1984.
- Buchananiella continua*** (White, 1880)
VC61, VC62, VC63: scarce, hedgerow shrubs, 2001-2021.
- Cardiastethus fasciiventris*** (Garbiglietti, 1869)
VC61: rare, single record, willows in fens, 2019.
- Tribe: ORIINI Carayon, 1958
- Orius (Heterorius) laticollis laticollis*** (Reuter, 1884)
VC61, VC62, VC63, VC64: scarce, willows and other deciduous trees, 1998-2019.
- Orius (Heterorius) majusculus*** (Reuter, 1879)
VC61, VC62, VC63, VC64, VC65: frequent, trees and shrubs, 1934-2021.
- Orius (Heterorius) minutus*** (Linnaeus, 1758)
VC63: rare, hedgerow shrubs and plants, 1974-2007.
- Orius (Heterorius) vicinus*** (Ribaut, 1923)
VC61, VC63: frequent, trees and shrubs, 1975-2020.
- Orius laevigatus laevigatus*** (Fieber, 1860)
VC61, VC63: uncommon, shrubs and plants, 1949-2020.
- Orius niger*** (Wolff, 1811)
VC61, VC63, VC64: common, shrubs and plants, 1949-2021.

Tribe: XYLOCORINI Carayon, 1972

Xylocoris (Proxylocoris) galactinus (Fieber, 1836)

VC61, VC62, VC63, VC64: scarce, manure heaps and compost, 1921-2002.

Xylocoris cursitans (Fallén, 1807)

VC61, VC62, VC63, VC64, VC65: uncommon, beneath bark of fallen logs, 1937-2015.



Fig. 1: (see p126) *Dictyonota fuliginosa* from Wath. (Length 4.5mm)



Fig.2: (see p127) *Himacerus (Stalia) boops* from Kirk Sandall. (Length 6.6mm).



Fig.3. (see p127) *Anthocoris limbatus*. Found at Thorne Moors on Willow. (Length 3.2mm).



Fig.4: (see p 130) *Coranus subapterus* from Hatfield Moors. Length 9.5mm).

Family: LYCTOCORIDAE Schuh & Stys, 1991

Lyctocoris campestris (Fabricius, 1794)

VC61, VC62, VC63, VC64: scarce, vegetable refuse, straw, bird's nests, 1936-2001.

Family: CIMICIDAE Latreille, 1802

Subfamily: CIMICINAE Latreille, 1802

Cimex columbarius Jenyns, 1839

VC64: rare, single record, Leeds 1921.

Cimex lectularius Linnaeus, 1758

VC61, VC63, VC64: uncommon (probably common but records undisclosed), human homes (the bed bug), 1973-1992.

Cimex pipistrelli Jenyns, 1839

VC61, VC63, VC65: rare (under-recorded due to difficulty of accessing habitat), in bat roosts, 1975-1985.

Superfamily: Reduvidae

Family: REDUVIIDAE Latreille, 1807

Subfamily: EMESINAE Amyot & Serville, 1843

Tribe: PLOIARIOLINI Van Duzee, 1916

Empicoris culiciformis (De Geer, 1773)

VC62, VC63, VC64: scarce, predator, hedgerows and bird nests, 1921-2019.

Empicoris vagabundus (Linnaeus, 1758)

VC61, VC62, VC63, VC64, VC65: uncommon, predator, associated with trees, 1949-2016.

Subfamily: HARPACTORINAE Amyot & Serville, 1843

Tribe: HARPACTORINI Amyot & Serville, 1843

Coranus aethiops Jakovlev, 1893

VC63: rare, predator on heathland with pine, 1979-1990

Coranus subapterus (De Geer, 1773) (see Fig.4, p129)

VC61, VC62, VC64: rare, predator, mainly on sandy heathland, 1928-1982.

Superfamily: Microphysoidea

Family: MICROPHYSIDAE Dohrn, 1859

Loricula elegantula (Baerensprung, 1858)

VC61, VC62, VC63, VC64, VC65: uncommon, lichen on tree trunks, 1930-2016.

Loricula pselaphiformis Curtis, 1833

VC61, VC62, VC63, VC64, VC65: scarce, lichen on tree trunks, 1921-2010.

Myrmedobia coleoptrata (Fallén, 1807)

VC62: rare, single record, beneath bark on spruce, 2002.

Myrmedobia distinguenda Reuter, 1884

VC61, VC62, VC63, VC64: rare, lichen covered conifers, 1989-2019.

Myrmedobia exilis (Fallén, 1807)

VC63, VC64: rare, moss beneath conifers, 1946-1992.

Myrmedobia inconspicua (Douglas & Scott, 1871)

VC63: rare, single record, lichen covered conifers, 1945.

Taxonomic Changes since Southwood & Leston (1959) and adopted herein:

Tingoidea has moved to Miroidea:

Agramma laeta (Fallén) is now *Agramma laetum* (Fallén, 1807).

Dictyonot tricornis (Schränk) is now *Kalama tricornis* (Schränk, 1801).

Monanthia humuli (Fabricius) is now *Dictyla convergens* (Herrich-Schaeffer, 1835).

Physatocheila dumetorum (Herrich-Schaeffer) has been confused with *Physatocheila confinis* Horváth, 1905; the latter is newly identified as present in Britain.

Stephanitis takeyai Drake & Maa 1955 has been newly introduced into Britain.

Nabidae have moved from Cimicoidea to Naboeidea:

Dolichonabis limbatus (Dahlbom) is now *Nabis (Dolichonabis) limbatus* Dahlbom, 1851.

Dolichonabis lineatus (Dahlbom) is now *Nabis (Limnonabis) lineatus* Dahlbom, 1851.

Nabis flavomarginatus Scholtz is now *Nabis (Nabicula) flavomarginatus* Scholtz, 1847.

Stalia boops (Schødt) is now *Himacerus (Stalia) boops* (Schødt, 1870).

Stalia major (Costa) is now *Himacerus (Anaptus) major* (A. Costa, 1842).

Cimicoidea:

Anthocoris minki Dohrn sensu Southwood & Leston is now *Anthocoris simulans* Reuter, 1884.

Anthocoris minki minki Dohrn, 1860 is now present in Britain.

Orius (Heterorius) laticollis laticollis (Reuter, 1884) is now present in Britain.

Orius majusculus (Reuter) is now *Orius (Heterorius) majusculus* (Reuter, 1879).

Orius minutus (Linnaeus) sensu Southwood & Leston is now *Orius (Heterorius) vicinus* (Ribaut, 1923)

Orius (Heterorius) minutus (Linnaeus, 1758) is new to Britain.

Buchananiella continua (White, 1880) is new to Britain.

Xylocoris galactinus (Fieber) is now *Xylocoris (Proxylocoris) galactinus* (Fieber, 1836)

CARDIASTETHINI has been resurrected as a tribe within Anthocoridae, and embraces Brachysteles, Buchananiella and Cardiaethus.

LYCTOCORINI has been raised to LYCTOCORIDE.

Reduvioidea

Coranus aethiops Jakovlev, 1893 is new to Britain.

Microphysidae has moved from Miroidea to Microphysoidea

Myrmedobia tenella (Zetterstedt) is now *Myrmedobia exilis* (Fallén, 1807)

Myrmedobia bedwelli China is now *Myrmedobia coleoprata* (Fallén, 1807)

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A list of some British species and selected photographs can be viewed at: <https://www.britishbugs.org.uk/gallery.html>

Informative articles on British Heteroptera have been published in Het News and The Hemipterist, available at:
<https://www.britishbugs.org.uk/HetNews.html>
<https://sites.google.com/site/thehemipterist/>

Errata & Corrigenda to Part 1

Delete *Glaenocoris propinqua cavifrons* (Thomson, 1869) and replace with *Glaenocoris propinqua* (Fieber, 1860).

Notes on Yorkshire Mollusca 15: New and rare slugs in Yorkshire

Adrian Norris Recorder – Yorkshire Conchological Society
17 West Park Drive, Leeds LS16 5BL. Email: adrianxnorris@aol.com

Terry J. Crawford Chairman – Yorkshire Conchological Society
2 Crooklands Lane, Haxby, York YO32 3LD. Email: terryjcrowford@btinternet.com

DNA sequencing studies informed the AIDGAP guide *The slugs of Britain and Ireland* (Rowson *et al.*, 2014a) and details can be found in an open-access on-line journal (Rowson *et al.*, 2014b). This work has greatly improved our understanding of the systematics of British slugs and our knowledge of their distribution within Britain. In this paper we discuss the changes that have happened within Yorkshire over the past few years. A number of them are mentioned in Norris & Lindley (2011) but more and up-to-date information is given here.

Iberian Threeband Slug *Ambigolimax valentianus*. Since the introduction and subsequent segregation of this and the next species, a great deal of work has been undertaken to see just how well distributed these two slugs are in Britain. One or other has now been found from Cornwall to Wester Ross in Scotland. Within Yorkshire *A. valentianus* has proved to be very common and widely distributed, being now found in all five of our vice-counties. In town centres such as Leeds it has become a real pest of gardens and other planted areas as well as semi-wild situations.

Balkan Threeband Slug *Ambigolimax nyctelius*. Although mainly recorded from southern England, recent records have shown it to be much more widely distributed with single records from as far north as mid-Scotland. Within Yorkshire it has been confirmed from VC61 by

John M.C. Hutchinson by a track off Wolfreton Road, Anlaby near Hull (TA0377029347) on 24.02.2016. Robert Cameron recorded it from the Elsecar Heritage Centre in VC63 (SK385999) on 24.09.2016. Jane Thomas found confirmed *A. nyctelius* at St Nicks Nature Reserve, York (SE617518) in VC62 (as well as *A. valentianus*) on 23.09.2020 and both have proved to be widespread at this site (Buckton, 2021; Buckton & Thomas, 2021). Similar specimens, both too young to be certain of their identity, have also been seen in Leeds (VC64) and still need confirmation. Whether or not the two *Ambigolimax* spp. can be confidently distinguished without dissection remains uncertain. However, some say the triple lines on the body of *A. nyctelius* are conclusive.

Stella Davies' Slug *Arion (Arion)* sp. "Davies". This form was first recorded in Yorkshire from numbers found in a conifer plantation at Buttercrambe Moor Wood (VC62, SE709567) by Ben Rowson, James Turner and Adrian Norris on 24.09.2012. There were no further Yorkshire records until Jane Thomas found two at St Nicks, York (SE617517 and SE616516) on 28.07.2021 (Buckton & Thomas, 2021). All Yorkshire records have been verified by dissection and/or DNA sequence by Ben Rowson. The true identity of this alien slug is still in some doubt and there have been technical difficulties in transferring records between databases. At the time of writing (March 2022) the NBN Atlas (<https://www.nbnatlas.org/>) recognises two taxa: '*Arion (Arion)* sp. "Davies" sensu Rowson *et al.* 2014' which lists no records and '*Arion (Arion)* sp. cf. *vulgaris* Moquin-Tandon, 1855 Stella Davies' Slug', an initial provisional name for this taxon and which includes the Buttercrambe record. The 2021 St Nicks records and a small number of earlier records from outside Yorkshire have not yet been transferred to the NBN Atlas. This taxon seems still to be rare.

Vulgar Slug *Arion (Arion) vulgaris*. This is a spreading slug that is a major pest but care is required in its identification. It has long been confused with several other large *Arions*, in particular with the **Green-soled Slug** *Arion (Arion) flagellus*, which is now considered to be very common in Yorkshire but whose pest status remains uncertain. AN collected specimens of *A. vulgaris*, determined by Ben Rowson, from the Scarborough Spa Complex (VC61, TA044879) on 23.09.2012. Since about 2014 a good number of reliable records have been made in northern areas of Lincolnshire, Nottinghamshire and Derbyshire, just to the south of Yorkshire. A few Yorkshire records were soon accepted, mainly in the south of the County, e.g. around Hull, Doncaster and Sheffield. Although confirmed Yorkshire records remain relatively few, it does seem possible that this taxon is spreading northwards and also that the AIDGAP guide (Rowson *et al.*, 2014a) may be encouraging recorders to take more critical interest in the large *Arions*.

Blue-black Soil Slug *Arion (Kobeltia) hortensis*. This and the related **Brown Soil Slug** *Arion (Kobeltia) distinctus* have for a long time been considered as the same species and recorded as such. However, research has established that *A. hortensis* is a winter breeder whereas *A. distinctus* is a summer breeder, and thus adults are rarely found together at the same time of year. AN has dissected many hundreds of specimens, mostly collected in summer, and only found two of *A. hortensis*, both in his own gardens in Hull and Leeds. However, recent finds have shown it to be widespread throughout Yorkshire, although relatively uncommon. Once we discovered that if we collect in winter as well as in summer we get a better picture of both of these slugs within the county.

Tawny Soil Slug *Arion (Kobeltia) owenii*. This is quite rare within the county but does occasionally

turn up, with examples being found in all Yorkshire VCs except 61. It is particularly common in the woodlands within the Sheffield city region, with numerous records between 2002 and 2016. Norris & Lindley (2011) reported finding it at Gilbeck Bridge (VC65) at NZ062104 on 06.10.2007 and at Kirkby Malham (VC64) on 29.07.2011. Since then we have recorded it in VC63 on waste ground at a disused chapel in Cononley SD991468 on 11.05.2013, as widespread in broadleaved woodland at Cragg Vale SE0023 on 16.04.2016 and in woodland at Nostell Priory SE405185 on 21.09.2019. The first VC62 record was by Tony Wardhaugh from Saltburn Gill Reserve NZ672210 on 19.08.2019, followed by Jane Thomas finding it at St Nicks, York SE617517 on 21.10.2020 and subsequently elsewhere at the site (Buckton & Thomas, 2021).

Tramp Slug *Deroceras invadens*, formerly known as **Sicilian Slug** *D. panormitanum*. The latter has since been established as a separate species and at present is only known in Great Britain from the City Centre in Cardiff. However, *D. invadens* is an invasive pest first recorded in the 1930s. It has spread rapidly and is now one of the few slugs found throughout the British Isles.

Arctic Field Slug *Deroceras agreste*, is a rather rare upland slug which occurs mainly on short upland grassland. The first precisely-located Yorkshire record was from close to Malham Tarn SD8965 (VC64), in the eastern sedge bed by Robert Cameron and one of his students. It was identified by RC and AN and checked by Arthur Ellis. It is also known from other sites in the area including Middle Pasture (SD9380 and SD9480) where it proved plentiful and was recorded by Ben Rowson, Bill Symondson, David Lindley, AN and TJC on 27.09.2012. The only site not in the Yorkshire Dales is Anston Stones Wood SK525838 (VC63) where it was located by one of the staff working for Rotherham Museum, recording various animals and plants in the area. The specimen was forwarded to AN for identification but due to a misunderstanding about the substance it was stored in, the data label dissolved. We knew that it must occur in that area somewhere and, after several years of checking locations, we re-located it in the woods at SK525838, recorded by AN 01.09.1985.

Ghost Slug *Selenochlamys ysbryda* is a rarely-found, largely subterranean predatory slug described by Ben Rowson in 2008. Most records come from South Wales with very few from England. Victor Soria-Carrasco found it at Redcar Road, Sheffield (SK33328731, VC63) on 25.10.2017 (determined by Ben Rowson). This is a significant northerly extension to its known range.

Fylingthorpe Slug *Limax* sp. cf. *dacampi*. This very large slug is only known from Fyling Hall School near Robin Hood's Bay in North Yorkshire, where a number of specimens found by James Turner and Adrian Norris on 25.09.2012 were determined by Ben Rowson. Further work on this and similar species taking place on the continent may in time establish its true identity (Rowson *et al.*, 2014a,b). The slug was discovered by Marie Jeanne Perry, a teacher at the school, who first forwarded a photograph to Terry Crawford on 10.09.2012 with a query as to its identity. The school was founded in 1923 by an inspirational teacher called Mab Bradley. Prior to it being a school the original house was built around 1819 using imported stone from the Central Apennines in Italy from which marble floors, chimney surrounds and some small garden features were constructed. The wife of the original owner was Italian and laid out the garden which is still visible today. The slug appears to be confined to the school and its grounds, including the immediately adjacent woodland, and has not been found elsewhere, even though we did try to find it in very similar sites. More information can be found in the

NEYEDC blog <https://www.neyedc.org.uk/100-species/2022/3/30/8-slugs-and-snails-by-terry-crawford-and-adrian-norris>

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Yorkshire Ichneumons: Part 14

W.A.Ely 9 Clifton Lane, Rotherham, South Yorkshire S65 2AA

Introduction

Yorkshire statuses are taken from the chart shown on the YNU website: www.ynu.org.uk/insects/parasitic_wasps

† = new county record
* = new vice-county record

Subfamily **PIMPLINAE**

Addition to Ely (2013a):

- Clistopyga rufator*** Holmgren, 1856. Scarce in Yorkshire.
*VC65: Nosterfield gravel pits 19.7.2018 P.W.H.&S.Flint.
Paraperithous gnathaulax (Thomson, 1877). New to Yorkshire.
†VC63: Thorne Moors NNR 3-13.7.2021 J.O.H.Small
Zaglyptus varipes (Gravenhorst, 1829). Scarce in Yorkshire.
*VC61: East Cottingwith Ings, Lower Derwent Valley NNR 10-19.5.2019 J.O.H.Small.

Subfamily **PHYGADEUONTINAE**

Additions to Ely (2016):

- Diaglyptidea conformis*** (Gmelin, 1790) . Uncommon in Yorkshire.
*VC65: Nosterfield gravel pits 19.7.2018 P.W.H.&S.Flint.
Dichrogaster aestivalis (Gravenhorst, 1829). Frequent in Yorkshire.
*VC65: Nosterfield gravel pits 19.7.2018 P.W.H.&S.Flint.

Dichrogaster modesta (Gravenhorst, 1829). Scarce in Yorkshire.
*VC65: Nosterfield gravel pits 19.7.2018 P.W.H.&S.Flint.

Rhembobius perscrutator (Thunberg, 1824). Rare in Yorkshire.
* Millington Wood 8.9.2020 R.Crossley.

Lochetica westoni (Bridgman, 1880). Rare in Yorkshire.
*VC64: Bachelor Lane, Horsforth 24.7.2020 A.Millard.

Isadelphus armatus (Gravenhorst, 1829). Rare in Yorkshire.
*VC61: East Clough, Melton 20.6.2016 R.Crossley.

Subfamily **CRYPTINAE**

Additions to Ely (2017) :

Aptesis nigrocincta (Gravenhorst, 1815). Uncommon in Yorkshire.
*VC61: Westwood Pastures, Beverley 3.10.2014 W.A.Ely.

Oresbius nivalis (Zetterstedt, 1838). New to Yorkshire.
‡VC64: Ing Barn, Clitheroe 1.8.2011 W.A.Ely.

Echthrus reluctator (Linnaeus, 1758). New to Yorkshire.
‡VC63: Rocher 7.7.1981 T.Bird.
*VC64: Ox Close Wood, East Keswick 19.5.2015 W.A.Ely.

Schenkia graminicola (Gravenhorst, 1829). Rare in Yorkshire.
* New Covert, Melbourne 8-15.7.2003 S.E.M.Fraser.

Thrybius brevispina (Thomson, 1896). Rare in Yorkshire.
*VC63: Thorne Moors NNR 28.5-4.6.2021 + 10-17.7.2021 J.O.H.Small.

Subfamily **BANCHINAE**

Additions to Ely (2018a):

Lissonota culiciformis Gravenhorst, 1829. New to Yorkshire.
‡VC63: Thorne Moors NNR 2021 J.O.H.Small.

Lissonota (Campocineta) picticoxis Schmiedeknecht, 1900. Rare in Yorkshire.
*VC63: Thorne Moors NNR 2021 J.O.H.Small.

Subfamily **CTENOPELMATINAE**

Additions to Ely (2019) :

Perilissus pallidus (Gravenhorst, 1829). Rare in Yorkshire.
*VC65: Marsett 26.7.2019 T.M.Whitaker.

Hadrodactylus vulneratus (Zetterstedt, 1838). Scarce in Yorkshire.
*VC61: North Duffield Carrs YWT NR, Lower Derwent Valley NNR 24.6.2015 R.Crossley.

Subfamily **CAMPOPLEGINAE**

Additions to Ely (2019):

Leptocampoplex cremastoides (Holmgren, 1860). New to Yorkshire.
*VC61: Skerne Wetlands YWT NR 5.8.2014 R.Crossley.

‡VC63: [H]ighfield [L]ane, Keighley or [H]ardings [L]ane, Cross Hills 13.6.1930 J.Wood.
Campoletis punctata (Bridgman, 1886). Rare in Yorkshire.

*VC61: Danes Hills, Skipwith Common NNR 23.5.2016 R.Crossley.

Dusona aemula (Förster, 1868). Rare in Yorkshire.
*VC65: Marsett 26.7.2019 T.M.Whitaker.

Dusona angustifrons (Förster, 1868). Scarce in Yorkshire.
*VC64: Hollins Hill, Baildon 30-31.8.2018 H.N.Whiteley.

Tranosemella citrofrontalis (Hedwig, 1939). New to Yorkshire.

‡VC61: Filey CP 13.8.2014 W.A.Ely.
Tranosemella praerogator (Linnaeus, 1858). Rare in Yorkshire.
 *VC61: Rush Wood 5-12.8.2003 S.E.M.Fraser.
Diadegma argentellae Horstmann, 2004. New to Yorkshire.
 ‡VC63: Thorne Moors NNR 2021 J.O.H.Small.
Diadegma stagnale (Holmgren, 1856). Scarce in Yorkshire.
 *VC62: Strensall Common Pillwort pond 29.7.2016 R.Crossley.
Olesicampe femorella (Thomson, 1887). New to Yorkshire.
 ‡VC61: Bracepits Wood, Melbourne Hall 8-15.7.2003 S.E.M.Fraser.

Subfamily **TERSILOCHINAE**

Additions to Ely (2020b):

Spinolochus laevifrons (Holmgren, 1860). New to Yorkshire.
 ‡VC61: Cali Heath YWT NR 19.8.2020 R.Crossley.
Probles (Euporizon) exilis (Holmgren, 1860) . New to Yorkshire.
 ‡VC61: Bracepits Wood, Melbourne Hall 8-15.7.2003 S.E.M.Fraser.
Probles (Euporizon) gilvipes (Gravenhorst, 1829). New to Yorkshire.
 *VC61: Bracepits Wood, Melbourne Hall 8-15.7.2003 S.E.M.Fraser.
 *VC63: wood N of minor road at Woolley Edge 4.8.2010 W.A.Ely.
 *VC64: Providence Green 3.7.2011 W.A.Ely.
 ‡VC65: Cordilleras Wood, Feldon 18.8.1990 W.A.Ely.

Subfamily **OPHIONINAE**

Addition to Ely (2020a):

Enicospilus inflexus (Ratzeburg, 1844). Scarce in Yorkshire.
 *VC65: High Batts NR 4.7.2021 T.Baker.

Subfamily **MESOCHORINAE**

Addition to Ely (2020a):

Mesochorus britannicus Schwenke, 1999. Rare in Yorkshire.
 *VC62: Glaisdale 22.6.2016 G.Featherstone.
Mesochorus punctipleuris Thomson, 1886 . New to Yorkshire.
 ‡VC63: Canal 9, Thorne Moors NNR 10-31.8.2021 J.O.H.Small.

Subfamily **METOPHIINAE**

Addition to Ely (2020a):

Triclistus congener (Holmgren, 1858). New to Yorkshire.
 ‡VC61: Wheldrake Ings 25.9.2021 J.O.H.Small.
Hypsicera femoralis (Geoffroy, 1785). Scarce in Yorkshire.
 *VC61: Demesne or Hall Moor, Skipwith Common NNR 23.5.2016 R.Crossley.

Subfamily **ORTHOCENTRINAE**

Addition to Ely (2020b):

Orthocentrus fulvipes Gravenhorst, 1829. Rare in Yorkshire.
 *VC64: Hollins Hill, Baildon 30-31.8.2018 H.N.Whiteley.

Subfamily **DIPLAZONTINAE**

Addition to Ely (2021):

Woldstedtius holarcticus Diller, 1969. Rare in Yorkshire.

*VC62: Broxa Woods 17.9.2021 G.Featherstone.
Promethes bridgmani Fitton, 1976. Uncommon in Yorkshire.
 * VC61: Millington Wood 14.8.2020 R.Crossley.
Sussaba cognata (Holmgren, 1856). Very common in Yorkshire.
 *VC62: Malton Road, York 14.5.1944 J.H.Elliott.

Subfamily **ICHNEUMONINAE**

Tribe ***Heresiarchini***

Callajoppa cirrogaster (Schrank, 1781). Rare in Yorkshire.
 Unconfirmed unlocalised report in Roebuck (1877) p37, (1907) p213 and Morley (1903) p15.
 Reported from VC63 in Skidmore (2006) p149.

*VC61: Allerthorpe 16.8.1951 R.A.L.Didd (det. D.H.Smith).

Callajoppa exaltatoria (Panzer, 1804). Rare in Yorkshire.
 Unconfirmed report from VC63 in Roebuck (1877) p37, (1907) p213, Morley (1903) p15 p213 and Ely (2014a) p40.

†VC62: Hellwath Beck 9.1939 A.Smith (det. H.Britten).

Amblyjoppa fuscipennis (Wesmael, 1845). Rare in Yorkshire.
 Reported from VC61 in Hincks (1953b) p134.

*VC62 Raincliffe Wood 21.10.1979 unknown.

*VC63: Wilsden 1907 R.Butterfield.

Amblyjoppa proteus (Christ, 1791). Uncommon in Yorkshire.
 Reported from VC63 in Skidmore, Limbert & Eversham (1987) p127, Coldwell (1999) p61, Skidmore (2006) p148-9 and Ely (2014a) p40.

*VC62: Buttercrambe 30.6.1939 JH (det. W.D.Hincks).

*VC64: Acomb brick ponds 18.6.1943 J.H.Elliott.

*VC65: Harmby c1984 F.B.Stubbs.

Coelichneumon bilineatus (Gmelin, 1790). Rare in Yorkshire.
 Reported from VC61 in Ely (1985) p146.

*VC62: Haxby 3.7.2014 T.J.Crawford.

*VC63: Thorne Moors 10-24.10.1990 D.Heaver.

Coelichneumon comitator (Linnaeus, 1758). Rare in Yorkshire.
 Unconfirmed reports from VC64 in Bairstow, Roebuck & Wilson (1882) p102, Morley (1903) p33 and Roebuck (1907) p213.

†VC63: Wilsden 1915 R.Butterfield.

*VC64: Askham Bog YWT NR 21.3.1987 J.Payne.

*VC65: Aysgarth 27.6.1936 unknown.

Coelichneumon consimilis (Wesmael, 1845). Rare in Yorkshire.
 Reported from VC62 in Roebuck (1877) p37, Morley (1903) p31, Roebuck (1907) p213 and Ely (1985) p146.

Coelichneumon desinatorius (Thunberg, 1822). Rare in Yorkshire.

*VC62: Haxby 28.9.2010 T.J.Crawford.

†VC63: Sheffield 1998 J.R.Comley.

*VC64: Tadcaster 15.6.2017 D.Baker.

[***Coelichneumon eximius*** (Stephens, 1835). Excluded from the UK checklist.

Unconfirmed unlocalised report in Stephens (1835) p187.]

Coelichneumon falsificus (Wesmael, 1845). Rare in Yorkshire.

Reported from VC63 in Ely (2014a) p45.

*VC61: Park Wood, Ross Moor, Melbourne 5-12.8.2003 S.E.M.Fraser.

Coelichneumon nigerrimus (Stephens, 1835). Scarce in Yorkshire.

Unconfirmed report from VC64 in Wilson (1884) p117 and Roebuck (1907) p213. Reported from VC63 in Skidmore, Limbert & Eversham (1987) p127, Skidmore (2006) p149 and Ely (2014a) p40.

*VC61: Allerthorpe 7.1927 unknown.

*VC62: Strensall Common 22.8.1990 A.Grayson.

Coelichneumon orbitator (Thunberg, 1824). Rare in Yorkshire.

†VC63: Howarth em 21.6.1916 unknown.

Coelichneumon ruficauda (Wesmael, 1844). Rare in Yorkshire.

Reported from VC63 in Coldwell (1999) p61.

*VC64: Morton 31.7.1942 unknown (det. J.F.Perkins).

Coelichneumon serenus (Gravenhorst, 1829). Rare in Yorkshire.

†VC63: Holmehouse Wood 4.6.1933 J.Wood (det. J.F.Perkins).

Coelichneumon validus (Berthoumieu, 1894). Rare in Yorkshire.

Reported from VC62 in Ely (2013e) p237.

*VC61: Hull 6-7.1880 unknown (det. J.Bridgman).

*VC64: Askham Bog YWT NR 30.8.1950 J.H.Elliott.

Syspasis lineator (Fabricius, 1781). Rare in Yorkshire.

Unconfirmed report from VC62 in Roebuck (1877) p37 and (1907) p213. Reported from VC63 in Butterfield (1908) p71 and from VC64 in Wilson (1881) p153, Bairstow, Roebuck & Wilson (1882) p102 and Roebuck (1907) p213.

Syspasis scutellator (Gravenhorst, 1829). Rare in Yorkshire.

*VC63: Forgemasters' Tip, Treeton Dyke 24 + 29 + 30.7.2016 M.A.Smethurst.

†VC64: Elleker Field NR, East Keswick 24.7.2014 P.Holmes.

Tribe Ichneumonini

Hoplismenus axillatorius (Thunberg, 1824). Rare in Yorkshire.

†VC63: Yateholme 24.6.1985 D.Maude.

*VC64: Blubberhouses Moor 21.8.2011 A.R.Godfrey.

Hoplismenus bidentatus (Gmelin, 1790). Scarce in Yorkshire.

*VC61: Skipwith Common NNR 5.8.2011 R.Crossley.

†VC63: Red Hill 26.6.2006 D.Whiteley.

*VC64: Fairburn Ings RSPB NR 10.10.2018 P.Kendall.

Stenichneumon culpator (Schränk, 1802). Uncommon in Yorkshire.

Reported from VC62 and VC64 in Hincks (1953a) p36, from VC63 in Higginbottom (2011) p49 and from VC65 in Ely (2013c) p 231.

*VC61: Allerthorpe Common 15.5.1950 W.D.Hincks.

Stenichneumon militarius (Thunberg, 1824). Rare in Yorkshire.

†VC62: Ashberry Pastures YWT NR 8.6.1980 W.A.Ely.

Aoplus castaneus (Gravenhorst, 1820). Rare in Yorkshire.

†VC62: Troutdale 25.6.1927 G.B.Walsh.

*VC63: Crimsworth Dene 27.8.1932 J.Wood.

*VC65: Apedale & Hag Wood NT, Richmond 3.10.1985 A.E.Stubbs, I.F.G.McLean, W.A.Ely.

Aoplus defraudator (Wesmael, 1845). Rare in Yorkshire.

†VC62: Levisham, Newtondale 15.7.2016 G.Featherstone.

Aoplus ochropis (Gmelin, 1790). Scarce in Yorkshire.

Reported from VC63 in Hincks (1953a) p36.

*VC61: Wheldrake Ings YWT NR 4.11.2015 + 31.5.2019 J.O.H.Small.

*VC62: Malton Road, York 26.5.1943 J.H.Elliott.

*VC64: drain from Pear Tree Avenue to Langrick Reach on River Ouse near Drax Abbey 23.7.1987 W.A.Ely.

*VC65: Greystone Lane, Manfield 3.9.2012 W.A.Ely.
Aoplus ruficeps (Gravenhorst, 1829). Rare in Yorkshire.
†VC63: Shipley 7.6.1908 R.Butterfield.
Stenaoplus pictus (Gravenhorst, 1829). Rare in Yorkshire.
Reported from VC62 in Walsh & Rimington (1956) p274.
*VC64: Cawood 3.9.1945 A.Smith.
Platylabops lariciatae (Kreichbaumer, 1890). Rare in Yorkshire.
*VC62: Wykeham 11.9.1978 P.Q.Winter.
†VC65: Ellington Firth 31.7.1964 [E.Broadhead may have been the collector].
Deuterolabops eupitheciae (Brischke, 1878). Rare in Yorkshire.
†VC63: Bolster Moor, Huddersfield 18.7.2016 C.Rew.
Cratichneumon albifrons (Stephens, 1835). Rare in Yorkshire.
Unconfirmed report from VC61 in Fordham (1920) p181.
*VC61: Fox Covert, Escrick Park 4-11.9.2003 S.E.M.Fraser.
*VC62: Cass Plantation, Huby 2.9.2011 W.A.Ely.
*VC63: Hatfield Moor 29.9.1992 P.Skidmore.
†VC65: Colsterdale 1.9.1984 W.A.Ely.
Cratichneumon coruscator (Linnaeus, 1758). Rare in Yorkshire.
Unconfirmed report from VC61 in Fordham (1929) p375.
†VC63: Woodlands, Adwick le Street ex Clouded Drab 1960s-70s A.H.Wright.
*VC65: Ivelet, Swaledale 23.6.2014 W.A.Ely.
Cratichneumon culex (Muller, 1776). Common in Yorkshire.
Unconfirmed report from VC64 in Bairstow, Roebuck & Wilson (1882) p102 and Roebuck (1907) p213. Reported from VC61 in Fordham (1926) p117, from VC62 in Fordham (1926) p117, Walsh & Rimington (1956) p274, Hincks (1956) p149 and Key (1987) p152 and from VC63 in Butterfield (1908) p71.
*VC64: Halton, Leeds (?) 7.6.1926 W.J.Fordham.
*VC65: Ravensworth 29.8.1922 W.J.Fordham.
Cratichneumon flavifrons (Schränk, 1781). Frequent in Yorkshire.
Unconfirmed reports from VC64 in Bairstow (1878) p69, Bairstow, Roebuck & Wilson (1882) p103 and Roebuck (1907) p213. Reported from VC61 in Hincks (1946) p160, from VC62 in Hincks (1943b) p122 and Walsh & Rimington (1956) p274 and from VC63 in Coldwell (1999) p61.
*VC64: Grassington 18.9.1918 R.Butterfield.
Cratichneumon fugitivus (Gravenhorst, 1829). Rare in Yorkshire.
†VC61: Allerthorpe 5.6.1922 W.J.Fordham.
*VC62: Strensall 2.6.1943 J.H.Elliott.
*VC63: St Ives, Bingley 8.7.1944 J.Wood.
Cratichneumon jocularis (Wesmael, 1848). Rare in Yorkshire.
Unconfirmed report from VC61 in Fordham (1919) p70. Reported from VC63 in Porritt (1882) p57, Roebuck (1907) p213 and Ely (2014a) p40.
*VC62: Beck Hole 8.6.1936 H.Britten.
*VC64: Askham Bog YWT NR 23.9.1979 W.A.Ely.
Cratichneumon rufifrons (Gravenhorst, 1829). Common in Yorkshire.
Unconfirmed report from VC64 in Bairstow, Roebuck & Wilson (1882) p103; Roebuck (1907) p213 and Butterfield (1909) p197. Reported from VC62 in Walsh & Rimington (1956) p274 and from VC63 in Coldwell (1999) p61 and Denton (2017) p446.
*VC61: Danes Hills, Skipwith Common YWT NR 18.6.1983 W.A.Ely.
*VC64: Austwick 14.6.1918 R.Butterfield.
*VC65: Birk Gill Wood, Colsterdale 31.8.1980 + 27.6.1981 W.A.Ely.

Cratichneumon sicarius (Gravenhorst, 1829). Rare in Yorkshire.

Reported from VC63 in Ely (2014a) p45.

Cratichneumon versator (Thunberg, 1822). Scarce in Yorkshire.

Reported from VC63 in Coldwell (1999) p61.

*VC61: Allerthorpe 8.1925 W.J.Fordham.

*VC62: Hell Bank Wood, Appleton Mill Farm 25.5.1985 W.A.Ely.

*VC64: Sunnysdale 1.9.1945 J.Wood.

*VC65: Freeholders Wood, Asysgarth 15.6.1985 W.A.Ely.

Cratichneumon viator (Scopoli, 1763). Rare in Yorkshire.

Unconfirmed reports from VC62 in Anon (1911) p56 and from VC63 in Bairstow, Roebuck & Wilson (1882) p103; Roebuck (1907) p213 and Butterfield (1909) p197.

†VC63: Holmehouse Wood 24.6.1944 J.Wood.

*VC64: Copmanthorpe Wood 29.7-13.8.2004 S.E.M.Fraser.

Crypteffigies albilavatus (Gravenhorst, 1820). Rare in Yorkshire.

*VC62: Ashberry Pastures YWT NR 8.6.1980 P.Skidmore.

*VC63: Birkin Royd 22.5.2009 D.Whiteley.

†VC64: Shipley Glen 26.5.1934 + 6.6.1942 J.Wood (det. G.J.Kerrich, J.F.Perkins).

Crypteffigies lanius (Gravenhorst, 1829). Frequent in Yorkshire.

Unconfirmed report from VC64 in Bairstow, Roebuck & Wilson (1882) p103 and Roebuck (1907) p213. Reported from VC62 in Walsh & Rimington (1956) p274 and from VC63 in Coldwell (1999) p61.

*VC61: Frog Hall, Allerthorpe Common 14 + 17.6.1932 W.J.Fordham (det. G.J.Kerrich).

*VC64: Oxenber Wood, Austwick 1.6.1955 R.B.Benson.

*VC65: Deer Park Wood + Marske 6.6.1981 W.A.Ely.

Sycaonia foersteri (Wesmael, 1848). Rare in Yorkshire.

Reported from VC63 in Ely (2014a) p45.

Eupalamus wesmaeli (Thomson, 1886). Rare in Yorkshire.

Reported from VC63 in Ely (2014a) p45.

*VC61: Park Wood, Ross Moor, Melbourne 5-12.8.2003 S.E.M.Fraser.

*VC62: Pexton Wood 16.7.2021 G.Featherstone.

Vulgichneumon bimaculatus (Schrank, 1776). Rare in Yorkshire.

†VC61: Hagg Wood, Dunnington 18.5.2011 R.Crossley.

*VC62: Sand Dale 15.8.2011 R.Crossley.

*VC63: Woodhouse Washlands YWT/S&RWT NR 15.8.2017 D.Whiteley.

*VC64: Askham Bog YWT NR 29.7.2014 + Middle Wood 20.7.2016 R.Crossley.

Vulgichneumon deceptor (Scopoli, 1763). Scarce in Yorkshire.

Reported from VC61 in Hincks (1953b) p134 and from VC63 in Skidmore, Limbert & Eversham (1987) p127 and Skidmore (2006) p149.

*VC64: Askham Bog YWT NR 29.8.1950 J.H.Elliott.

Vulgichneumon saturatorius (Linnaeus, 1758). Scarce in Yorkshire.

Reported from VC63 in Butterfield (1909) p197.

*VC61 Hessle 5.1948 D.H.Smith.

*VC62: Chafer Wood YWT NR 28.5.1988 W.A.Ely.

*VC64: Knaresborough Ringing Station 1970 unknown.

Vulgichneumon suavis (Gravenhorst, 1820). Rare in Yorkshire.

Reported from VC61 in Fordham (1931) p356.

*VC63: Thorne Moors NNR canals 24.6-14.7.1987 W.A.Taylor.

*VC64: Balley Lane, Tossie 12.6.2014 W.A.Ely.

Virgichneumon faunus (Gravenhorst, 1829). Rare in Yorkshire.

Unconfirmed report from VC61 in Anon (1919) p35 and Fordham (1926) p118. Recorded from VC63 in Ely (2014a) p45.

*VC61: Allerthorpe Common 18.8.1928 W.J.Fordham.

Virgichneumon maculicauda (Perkins, 1953). Scarce in Yorkshire.

Reported from VC61 in Fordham (1926) p118.

*VC63: Sheffield Lane Dike 14.8.1992 R.Shaw.

Virgichneumon monostagon (Gravenhorst, 1820). Rare in Yorkshire.

Reported from VC63 in Ely (2014a) p45.

Barichneumon bilunulatus (Gravenhorst, 1829). Rare in Yorkshire.

Reported from VC62 in Walsh & Rimington (1956) p274.

Barichneumon chionomus (Wesmael, 1844). Rare in Yorkshire.

Reported from VC63 in Ely (1986c) p35.

Barichneumon derogator (Wesmael, 1845). Rare in Yorkshire.

Reported from VC62 in Fordham (1926) p118.

Barichneumon gemellus (Gravenhorst, 1829). Scarce in Yorkshire.

Reported from VC61 in Fordham (1926) p118 and from VC63 in Coldwell (1999) p61.

*VC62: Maiden Greve Balk 19.5.1989 A.Grayson.

*VC64: Monk Wood, Kirkstall 27.6.1983 W.A.Ely.

Barichneumon heracliana (Bridgman, 1884). Scarce in Yorkshire.

Reported from VC61 in Hincks (1951) p27, (1953b) p134 and Ely (2014c) p236 and from VC63 in Coldwell (1999) p61.

Barichneumon peregrinator (Linnaeus, 1758). Rare in Yorkshire.

Reported from VC63 in Coldwell (1999) p61.

*VC64: Leeds lime hills 24.10.1943 W.D.Hincks.

Barichneumon praeceptor (Thunberg, 1824). Rare in Yorkshire.

†VC64: Askham Bog YWT NR (SE5647/SE5748) 20.8.1950 J.H.Elliott.

Baranisobas ridibundus (Gravenhorst, 1829). Scarce in Yorkshire.

Reported from VC61 [as *Vulgichneumon suavis*] in Fordham (1931) p356, from VC63 in Hincks (1951) p27 and Coldwell (1999) p63 and from VC64 in Hincks (1951) p27.

*VC65: Hag Wood NT, Richmond 3.10.1985 I.F.G.McLean.

Stenobarichneumon basalis (Perkins, 1960). Rare in Yorkshire.

†VC61: Thorpe Hall, Rudston 15.7.1989 W.A.Ely.

Stenobarichneumon basiglyptus (Kreichbaumer, 1890). Uncommon in Yorkshire.

Unconfirmed report from VC64 in Fordham (1931) p356. Reported from VC63 in Coldwell (1999) p63.

*VC61: Wilson's Plantation, Limefield Farm, Stamford Bridge 5-12.8.2003 S.E.M.Fraser.

*VC62: Reighton Gap 23.6.1980 W.A.Ely.

*VC64: Halton, Leeds (?) 29.5.1927 W.J.Fordham.

*VC65: Nosterfield gravel pits 19.7.2018 P.W.H.&S.Flint.

Homotherus locutor (Thunberg, 1822). Frequent in Yorkshire.

Reported from VC62 in Walsh & Rimington (1956) p274 and from VC63 in Porritt (1882) p57, Morley (1903) p213, Coldwell (1999) p63 and Ely (2014a) p40.

*VC61: Allerthorpe 24.6.1923 W.J.Fordham.

*VC64: Rawdon 7.1919 A.R.Sanderson.

*VC65: Hag Wood NT, Richmond 3.10.1985 I.F.G.McLean.

Homotherus varipes (Gravenhorst, 1829). Uncommon in Yorkshire.

Reported from VC61 in Ely (2013d) p234, from VC62 in Flint (1989) p142 and from VC64 in Wilson (1883) p109, Roebuck (1907) p213 and Ely (2013b) p227.

*VC63: Holmehouse Wood 19.9.1937 J.Wood.

*VC65: Masham 11.10.1947 W.D.Hincks.

Chasmias motatorius (Fabricius, 1775). Uncommon in Yorkshire.
 Unconfirmed reports from VC62 in Walsh & Rimington (1956) p274 and from VC64 in Bairstow, Roebuck & Wilson (1882) p103 and Roebuck (1907) p213. Reported from VC63 in Hincks & Dibb (1940) p173, Whiteley (1989) p97, Ely (2014a) p40 and Denton (2017) p446.

*VC61: Allerthorpe 8.5.1920 + 12.4 + 8.1925 + 13.4 1927 W.J.Fordham.
 *VC62: Lastingham 1860-65 T.A.Marshall (det. J.F.Perkins).
 *VC64: Blackmoor, Leeds 2.12.1939 W.D.Hincks.
 *VC65: Feldom, Cordilleras 18.8.1990 W.A.Ely.

Ichneumon albiger Wesmael, 1844. Scarce in Yorkshire.
 Reported from VC63 in Anon (1906b) p372, Roebuck (1907) p213, Bayford (1938) pxii and Ely (2014a) p40 and from VC64 in Hincks (1942) p172 and (1943a) p57.

*VC62: Whitby 16.11.1935 H.Britten.
 *VC65: Ravensworth 4.1923 W.J.Fordham.

Ichneumon bucculentus Wesmael, 1844. Rare in Yorkshire.
 *VC63: Langsett 30.6.1985 D.Maude.
 †VC64: Ripon 1914 SM.

Ichneumon caloscelis Wesmael, 1845. Rare in Yorkshire.
 †VC62: Whitby 23.7.1935 H.Britten.

Ichneumon cessator Müller, 1776. Rare in Yorkshire.
 *VC61: Old Fall Plantation, Flamborough 5.10.2017 M.A.Smethurst.
 †VC64: Knaresborough 1957 WB.

Ichneumon confusor Gravenhorst, 1820. Scarce in Yorkshire.
 Unconfirmed report from VC64 in Anon (1906a) p191 and Roebuck (1907) p213. Reported from VC62 in Walsh & Rimington (1956) p274 and from VC63 in Skidmore, Limbert & Eversham (1987) p127.

*VC61: Holme-on-Spalding Moor 2.1984 P.Kendall.
 *VC64: Grassington 30.7.1918 R.Butterfield.

Ichneumon crassifemur Thomson, 1886. Rare in Yorkshire.
 †VC61: Wheldrake Ings Lane 25.3.2017 J.O.H.Small.

Ichneumon deliratorius Linnaeus, 1758. Frequent in Yorkshire.
 Reported from VC62 in Morley (1903) p31, Roebuck (1907) p213, Hincks (1943c) p123, (1945a) p141 and Walsh & Rimington (1956) p274, from VC63 in Hincks & Dibb (1940) p173, Hincks (1945b) p146, Coldwell (1999) p61, Ely (2014a) p40 and Denton (2017) p444 and from VC64 in Butterfield (1908) p71.

*VC61 Spurn Point YWT NNR 7.1950 + 30.5.1956 W.D.Hincks.
 *VC65: Birk Gill 2.9.1984 W.A.Ely.

Ichneumon didymus Gravenhorst, 1829. Rare in Yorkshire.
 †VC62: Fyling Hall 6.1919 W.J.Fordham (det. J.F.Perkins).
 *VC63: canal 1, Thorne Moors NNR 10.2015 R.M.Smith.

Ichneumon emancipatus Wesmael, 1845. Rare in Yorkshire.
 †VC61: Thornwick Bay 11.8.1902 unknown (det. J.F.Perkins).

Ichneumon extensorius Linnaeus, 1758. Frequent in Yorkshire.
 Reported from VC61 in Hincks (1953b) p135, from VC62 in Anon (1935) p256, Hincks (1956) p149 and Key (1987) p152, from VC63 in Carr (1914) p94 and Coldwell (1999) p63 and from VC64 in Hincks (1944) and Ely (2014b) p228.

Ichneumon formosus Gravenhorst, 1829. Rare in Yorkshire.
 †VC62: Whitby ex Ruby Tiger 14.6.1927 H.Britten jnr.

Ichneumon gracilentus Wesmael, 1845. Uncommon in Yorkshire.

Reported from VC62 in Hincks (1951) p27 and from VC63 in Corbett (1918) p262; Key (1986) p225 and Ely (2014a) p40.

*VC61: Howsham Wood nr Kirkham Abbey 22.7.1978 W.A.Ely (det. A.A.Allen)

*VC64: Breary Marsh, Leeds 30.9.2010 CJG.

*VC65: Gill Wood, Greta Bridge 4.10.1985 W.A.Ely.

Ichneumon gracilicornis Gravenhorst, 1829. Rare in Yorkshire.

Reported from VC63 in Ely (2014a) p46.

Ichneumon insidiosus Wesmael, 1844. Rare in Yorkshire.

†VC61: Spurn Point YWT NNR 23.7.1948 W.D.Hincks.

*VC62: Lealholm, Eskdale 8.5.2021 G.Featherstone.

*VC63: Thorne Moors NNR 10.1996 unknown.

Ichneumon ligatorius Thunberg, 1822. Scarce in Yorkshire.

Reported from VC61 in Anon (1919) p35 and Fordham (1919) p16, (1940) p(xi) and from VC64 in Fordham (1919) p16.

*VC63: Keighley Tip, Riverside, Utley 13.12.1930 J.Wood.

*VC65: Flinter Ghyll, Dentedale 21.5.1979 W.A.Ely.

Ichneumon melanotis Holmgren, 1864. Rare in Yorkshire.

†VC63: Butternab Wood 2.6.1984 D.Maude.

Ichneumon memorator Wesmael, 1845. Rare in Yorkshire.

*VC62: Newtondale 1.7.1956 W.D.Hincks.

†VC63: Marley 21.8.1937 J.Wood.

*VC64: Askham Bog YWT NR 20.8.1950 J.H.Elliott.

Ichneumon minutorius Desvignes, 1856. Rare in Yorkshire.

*VC61: Hollow Swang, Skipwith Common NNR 15-23.7.2018 J.O.H.Small.

†VC63: Inkle Moor, Thorne Moors NNR 9-16.7.2012 H.R.Kirk,P.Kendall.

Ichneumon molitorius Linnaeus, 1761. Rare in Yorkshire.

Reported from VC64 in Ely (2014b) p229.

*VC61: Allerthorpe 10.11.1925 W.J.Fordham.

*VC62: Middlesbrough undated G.B.Walsh.

*VC63: Thorne Moors NNR/Hatfield Moor NNR 2021 J.O.H.Small.

Ichneumon oblongus Schrank, 1802. Uncommon in Yorkshire.

Unconfirmed report from VC62 in Roebuck (1877) p37, (1907) p213 and Morley (1903) p120.

Reported from VC61 in Hincks (1953b) p135.

*VC62: Whitby 16 + 24.11 1935 H.Britten.

*VC63: Holmehouse Wood 26.8.1929 + 23.7.1936 + 9.8 + 13.9.1941 + 5.9.1948 J.Wood.

*VC64: Askham Bog YWT NR 1 + 7.9.1950 J.H.Elliott.

*VC65: Black Mires, Arkengarthdale 24.8.2014 W.A.Ely.

Ichneumon sarcitorius Linnaeus, 1758. Frequent in Yorkshire.

Unconfirmed reports from VC63 in Morley (1903) p115; Roebuck (1907) p213 and Ely (2014a) p40 and from VC64 in Bairstow, Roebuck & Wilson (1882) p108 and Roebuck (1907) p213. Reported from VC61 in Hincks (1953b) p135 and from VC62 in Hincks (1943b) p122.

*VC63: Coxley Valley 31.8.1935 M.D.Barnes.

*VC64: Askham Bog YWT NR 29.9.1950 J.H.Elliott.

*VC65: Bellflask 30.6.2017 B.Morland.

Ichneumon sculpturatus Holmgren, 1864. Rare in Yorkshire.

Reported from VC62 in Walsh & Rimington (1956) p274.

Ichneumon simulans Tischbein, 1873. Scarce in Yorkshire.

*VC61: Allerthorpe Common YWT NR 5.8.1989 W.A.Ely.

*VC62: Fen Bog YWT NR 15.8.2016 R.Crossley.

*VC63 Newsholme Dene 17.9.1948 J.Wood.
†VC64: Buckden 9.1917 W.J.Fordham.
*VC65: Black Mires, Arkengarthdale 24.8.2014 W.A.Ely.

Ichneumon spurius Wesmael, 1848. Rare in Yorkshire.
Reported from VC63 in Ely (2014a) p46.

Ichneumon stigmatorius Zetterstedt, 1838. Rare in Yorkshire.
†VC63: Greenfield 11.11.1934 EWH.

Ichneumon stramentarius Gravenhorst, 1820. Scarce in Yorkshire.
Reported from VC63 in Coldwell (1999) p63 and from VC64 in Hincks (942) p172.
*VC62: Thornton Dale 24.8.1975 A.Norris.

Ichneumon stramentor Rasnitsyn, 1981. Scarce in Yorkshire.
Reported from VC62 in Walsh & Rimington (1956) p274.
*VC61: Hollym Carrs NR 19.9.2015 W.R.Dolling.
*VC63: Intake, Doncaster 25.7.2017 P.Secombe.
*VC64: Meadowcroft, Bilton, Harrogate 1.4.2021 I.Morris.

Ichneumon suspiciosus Wesmael, 1844. Scarce in Yorkshire.
Reported from VC63 in Coldwell (1999) p63.
*VC61: Kilnsea Warren, Spurn Point YWT NR 25.7.1948 W.D.Hincks.
*VC62: Hole of Horcum 31.8.1937 H.Britten.
*VC64: Knaresborough Ringing Station 27.7 + 1.8.1972 unknown.

Ichneumon validicornis Holmgren, 1864. Scarce in Yorkshire.
Reported from VC63 in Denton (2017) p444.
*VC62: Bridestones NT NR 1984 D.H.Smith.
*VC64: Askham Bog YWT NR 5.8.1950 J.H.Elliott.
*VC65: Masham 26-28.9.1948 W.D.Hincks.

Ichneumon vulneratorius Zetterstedt, 1838. Rare in Yorkshire.
†VC63: Hades 27.5.1985 D.Maude.

Ichneumon xanthorius Forster, 1771. Scarce in Yorkshire.
Reported from VC62 in Walsh & Rimington (1956) p274 and from VC63 in Coldwell (1999) p63.

Probolus crassulus Horstmann, 2000. Rare in Yorkshire.
†VC61 Crockey Hill 14.8.1917 W.J.Fordham.
*VC64: Blubberhouses Quarry 21.8.2011 A.R.Godfrey.

Probolus culpatorius (Linnaeus, 1758). Scarce in Yorkshire.
Reported from VC61 in Hincks (1953a) p37 and from VC63 in Hincks (1953a) p37, Key (1986) p125 and Coldwell (1999) p63.
*VC64: Thwaite Mill, Leeds 27.7.2011 W.A.Ely.
*VC65: Jetties Riverside Common, Brompton Bridge 1.7.2013 W.A.Ely.

Ctenichneumon castigator (Fabricius, 1793). Scarce in Yorkshire.
Reported from VC61 in Fordham (1929) p375, Ely (2000) p76 and Hincks (1953b) p135 and from VC63 in Hincks (1953a) p37, Coldwell (1999) p63 and Denton (2017) p446.
*VC62: Whitby 13.9.1937 H.Britten jnr.
*VC64: Askham Bog YWT NR 16.6.1945 W.D.Hincks.

Ctenichneumon divisorius (Gravenhorst, 1820). Rare in Yorkshire.
Reported from VC61 in Butterfield (1932) p59 and from VC63 in Skidmore, Limbert & Eversham (1987) p127, Skidmore (2006) p149 and Ely (2014a) p40.

Ctenichneumon panzeri (Wesmael, 1845). Rare in Yorkshire.
*VC61: Cali Heath YWT NR 15.6.2011 R.Crossley.
†VC63: Harden Moor 19.7.2007 S.M.Saxton.

Spilichneumon ammonius (Gravenhorst, 1820). Rare in Yorkshire.

†VC62: Thornton Stud ex Bulrush Wainscot 30.7.2012 R.S.Key.
Spilichneumon occisorius (Fabricius, 1793). Rare in Yorkshire.
 Reported from VC61 in Hincks (1949) p33, (1953b) p135 and from VC62 in Walsh & Rimington (1956) p274.
 *VC63: Hatfield Moor NNR 19.8.1992 P.Skidmore.
Spilothyrateles nuptatorius (Fabricius, 1793). Rare in Yorkshire.
 Reported from VC63 in Hincks (1953a) p37.
Eutanyacra glaucatorius (Fabricius, 1793). Rare in Yorkshire.
 Reported from VC63 in Ely (2000) p76; Ely (2014a) p46.
Diphyus amatorius (Muller, 1776). Rare in Yorkshire.
 Unconfirmed report from VC62 in Roebuck (1877) p37, Morley (1903) p196 and Roebuck (1907) p213 and from VC63 in Bairstow (1878) p37; Morley (1903) p196 and Roebuck (1907) p213.
 †VC62: Ravenscar 8.1901 Bingham (det. J.F.Perkins).
 *VC64: Grassington 1.6.1905 R.Butterfield,
Diphyus castanopyga (Stephens, 1835). Scarce in Yorkshire.
 Unconfirmed report from VC62 in Fordham (1929) p375. Reported from VC61 in Fordham (1929) p375 and from VC63 in Butterfield (1909) p197, Hincks & Dibb (1940) p174, Hincks (1943a) 57 and Coldwell (1999) p63.
Diphyus longigena (Thomson, 1888). Rare in Yorkshire.
 *VC61: Allerthorpe Common YWT NR 5.8.1989 W.A.Ely.
 †VC63: Wilsden 24.8.1907 WRB (det. J.F.Perkins).
Diphyus luctatorius (Linnaeus, 1758). Rare in Yorkshire.
 Unconfirmed reports from VC62 in Roebuck (1877) p37 and from VC63 in Bairstow (1878) p69, Wilson (1881) p153, Bairstow, Roebuck & Wilson (1882) p103, Coldwell (1999) p63 and Ely (2014a) p40. Reported from VC64 in Porritt (1882) p57.
Diphyus ochromelas (Gmelin, 1790). Rare in Yorkshire.
 Unconfirmed report from VC61 in Fordham (1919) p70.
 †VC63: Forgemasters' Tip, Treeton Dyke 26.8.2016 M.A.Smethurst.
Diphyus palliatorius (Gravenhorst, 1829). Scarce in Yorkshire.
 Unconfirmed report from VC64 in Roebuck (1907) p213. Reported from VC62 in Walsh & Rimington (1956) p274 and from VC63 in Coldwell (1999) p63.
 *VC61: Thixendale 9.1930 A.Smith.
 *VC64: Farnley 4.1948 unknown.
 *VC65: Feldon 18.8.1990 G.Boyd.
Diphyus quadripunctorius (Muller, 1776). Scarce in Yorkshire.
 †VC61: Cowcliff Plantation 6.5.1991 A.Grayson.
 *VC63: Treeton Wood 21.7.1997 D.Whiteley.
Diphyus salicatorius (Gravenhorst, 1820). Scarce in Yorkshire.
 Reported from VC62 in Fordham (1929) p375 and Walsh & Rimington (1956) p274.
 *VC63: Unsliven Bridge, Stocksbridge 10.7.1977 J.Lee.
Diphyus trifasciatus (Gravenhorst, 1829). Rare in Yorkshire.
 Reported from VC63 in Coldwell (1999) p63.
 *VC62: Dalby Bush fen 3.8.1996 A.Grayson.
Achais margineguttatus (Gravenhorst, 1829). Rare in Yorkshire.
 †VC64: Blubberhouses Moor 21.8.2011 A.R.Godfrey.
Achais oratorius (Fabricius, 1793). Uncommon in Yorkshire.
 Unconfirmed report from VC64 in Bairstow, Roebuck & Wilson (1882) p103; Morley (1903) p202 and Roebuck (1907) p213. Reported from VC63 in Key (1986) p104.
 *VC61: Allerthorpe Common 12.7.1928 W.J.Fordham (det. C.Morley, G.J.Kerrich).

*VC62: Whitby 1.7.1936 H.Britten.

*VC64: Askham Bog YWT NR 15.7.1944 W.D.Hincks.

*VC65: Foxglove Covert, Catterick Garrison 5.12.2013 + 10.10.2017 E.Dickinson.

Amblyteles armatorius (Forster, 1771). Common in Yorkshire.

Reported from VC62 in Roebuck (1877) p37, Morley (1903) p200-201, Walsh & Rimington (1956) p275, Hincks (1956) p148 and Key (1987) p152, from VC63 in Butterfield (1908) p71, Hincks & Dibb (1940) p174 and Bateson (2002) p42, from VC64 in Hincks & Dibb (1940) p174 and Hincks (1944) p61 and from VC65 by Newbould, Norris & Ely (2013) p57.

*VC61: Langhill, Burythorpe 30.6.1990 A.Grayson.

Limerodops elongatus (Brischke, 1878). Frequent in Yorkshire.

Reported from VC61 [as *subsericans*] in Fordham (1926) p117, from VC63 in Coldwell (1999) p63 and Bateson (2002) p43.

*VC62: Cayton Bay 18.8.1984 P.Kendall.

*VC64: Bilton Beck Wood 1.7.1989 W.A.Ely.

*VC65: Feldom, Cordilleras 18.5.1991 W.A.Ely.

Limerodops subsericans (Gravenhorst, 1820). Rare in Yorkshire.

Unconfirmed report from VC64 in Carr (1914) p94. Reported from VC61 in Hincks (1953b) p135 and from VC62 in Walsh & Rimington (1956) p275.

Limerodes arctiventrīs (Boie, 1841). Scarce in Yorkshire.

Unconfirmed report from VC62 in Morley (1903) p166; Roebuck (1907) p213 and Walsh & Rimington (1956) p275. Reported from VC61 in Ely (1986b) p11 and from VC63 in Key (1986) p104 and Ely (2012) p236.

*VC62: Strensall 16.7.1951 J.H.Elliott.

*VC65: Wemmergill 18.7.2014 W.A.Ely.

Exephanes ischioxanthus (Gravenhorst, 1829). Scarce in Yorkshire.

Reported from VC61 in Hincks (1951) p27, (1953b) p135 and from VC63 in Ely (1986a) p14.

Exephanes occupator (Gravenhorst, 1829). Rare in Yorkshire.

Unconfirmed unlocalised report in Bairstow, Roebuck & Wilson (1882) p103 and Roebuck (1907) p213.

*VC63: Slippery Stones 14.5.2018 D.Whiteley.

†VC64: Malham 1-6.6.1955 R.B.Benson (det. J.F.Perkins).

*VC65: Hunters Stone Bank, Coverdale 9.9.2012 W.A.Ely.

Hepiopelmus melanogaster (Gmelin in Linnaeus, 1790). Scarce in Yorkshire.

*VC61: Wilson's Plantation, Limefield Farm, Stamford Bridge 5-12.8.2003 S.E.M.Fraser.

†VC63: Scholes Pond ex cocoon 8.11.1978 em 6.1979 M.Crittenden, D.W.Twigg.

*VC64: Hollins Hill, Baildon summer 2013 H.N.Whiteley.

Hepiopelmus variegatorius (Panzer, 1800). Scarce in Yorkshire.

Reported from VC63 in Coldwell (1999) p63.

*VC61: Hull garden 3.9.1923 unknown.

*VC64: Copmanthorpe Wood 29.7-13.8.2004 S.E.M.Fraser.

Tricholabus strigatorius (Gravenhorst, 1829). Rare in Yorkshire.

Reported from VC64 in Ely (2014b) p228.

*VC61: Hollow Swang, Skipwith Common NNR 15-23.7.2018 J.O.H.Small.

*VC63: Hatfield Moor NNR 15.7.1992 P.Skidmore.

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Flora on the doorstep – a novice botanist in a Yorkshire parish

Nick Morgan Linden, Church View, Ainderby Steeple, North Yorkshire, DL7 9PU
Email: nickmlinden@gmail.com

My main natural history interest has always been birds and in recent years I have increasingly focussed my birdwatching on my home parish of Ainderby Steeple in North Yorkshire. It has to be said the pickings have been somewhat 'thin' but there is still something satisfying about concentrating on, and understanding more about, your immediate neighbourhood.

A couple of years ago, a trip with a botanist friend to see some local orchids stirred a nascent interest in plants, so over the last two summers I have also made some initial attempts to record the flora of the parish. Ainderby, like many settlements in the vales of Mowbray and York, sits in extensive areas of high-quality arable land which, whilst agriculturally productive, can be depressingly poor ecologically. The parish also has virtually no standing water and woodland is limited to small spinneys and shelter belts together with tiny patches in two of the grander parish properties. Not perhaps the most fertile ground for a budding botanist!

It wouldn't have always been like this. Prior to post-war agricultural improvements, the village sat in a quite extensive area of fen/carr. There are references to some of Ainderby's scarcer wetland plants in Edwardian floras and the parish was also of sufficient natural history significance to attract one of the YNU excursions in June 1946. A report on the visit described the most interesting habitat at that time:

"Ainderby Bottoms or Carr, consists of a considerable swampy area of sedges and reeds with some birch-willow-alder carr wood, separated by ditches from low-lying marshy fields the vegetation of which is subject to grazing by cattle. The central fenced-off and ungrazed swampy area is ecologically the most interesting region and the existence of communities similar to those on developing peat mosses of the North-west is particularly

interesting in view of the statement that the present conditions date back to little more than 40 years ago.” Sledge (1946).

Even at the time of the visit there were signs of change but it was a significant programme of post-war drainage that largely destroyed this habitat.

On the more positive side there are a couple of more traditional farms with good areas of pasture and hedgerow. The parish is bordered by two watercourses, the rivers Swale and Wiske, and some damper grazing fields and associated ditches still survive to the south of the village. A stretch of the Wensleydale railway runs east-west through the parish and, whilst there is no public access, this is particularly productive for plants with good areas of, for example, bellflowers, knapweeds and Kidney Vetch *Anthyllis vulneraria* (see back cover).

In addition, the owner of Ainderby Manor has kept part of his garden as a semi-wild habitat including preserving a tiny area of remnant ‘fen’ which has retained some of the pre-drainage plants such as Common Meadow-rue *Thalictrum flavum*, Purple Loosestrife *Lysimachia vulgaris* and one of my personal favourites, the lovely little Skullcap *Scutellaria galericulata* (Fig. 1, p152).

I am very much a novice but even so I have clocked up over 300 species of flowering plants so far. This may not be particularly impressive compared to the plant list of a decent nature reserve, for example, but in the context of an intensively farmed, apparently nature-denuded, landscape I was pleasantly surprised by its extent and diversity.

Amongst the more interesting finds were Nettle-leaved *Campanula trachelium* and Peach-leaved Bellflower *C. persicifolia*, Henbit Deadnettle *Lamium amplexicaule*, Corn Marigold *Glebionus segetum* and a gratifying number of the wetland plants noted in the 1946 visit. These include Greater Pond-sedge *Carex riparia*, Bottle-sedge *C. rostrata*, Brown-sedge *C. disticha*, Slender Tufted-sedge *C. acuta*, Common Valerian *Valeriana officinalis*, Reed Canary-grass *Phalaris arundinacea*, Amphibious Bistort *Persicaria amphibia*, Water Plantain *Alisma plantago-aquatica*, Water Figwort *Scrophularia auriculata*, Branched Bur-reed *Sparganium erectum*, Fool’s Water-cress *Apium nodiflorum* and Hemp Agrimony *Eupatorium cannabinum*. I should mention here the excellent help from the VC65 botanical recorder, Linda Robinson, who has been generous with both her encouragement and her expertise. This has included visiting the parish herself and finding, amongst many other plants, Opposite-leaved Pondweed *Groenlandia densa*, now a significant rarity in North-west Yorkshire. The latter was found in what I have dubbed the Rich Ditch, a short well-vegetated stretch of the How Beck. However, recent unsympathetic dredging and probable contamination with herbicide looks to have exterminated this plant. This illustrates a key issue in that, although a number of plants are still present in the parish, the populations are often very small and the patches of more productive habitat tend to be isolated and vulnerable.

On a more positive note there are some recent illustrations of nature’s resilience and the potential gains with relatively minor changes in management. For example, one area of pasture was grazed less heavily in 2021 and retained more moisture than usual. The result was large areas of Ragged-robin *Silene flos-cuculi* (Fig. 2, p152), carpets of Selfheal *Prunella vulgaris* and good areas of Marsh Bedstraw *Galium palustre* and the emergence of plants like Large

Bittercress *Cardamine amara*, Reed Sweet-grass *Glyceria maxima* and Square-stalked St. John's Wort *Hypericum tetrapterum* in an area where I hadn't recorded any of these plants before.



Fig. 1 A single Skullcap Skullcap *Scutellaria galericulata*.



Fig. 2. Ragged-robin *Silene flos-cuculi*
Photos: N. Morgan

Similarly, along a stretch of the Swale where the bankside vegetation was effectively non-existent, the farmer put up a temporary electric fence to prevent his cattle swimming across to the far bank to eat the willow and Giant Hogweed *Heracleum mantegazzianum*(!). Recolonisation was very rapid with a good growth of crucifers together with plants such as Common Restharrow *Ononis repens*, Marsh Woundwort *Stachys palustris*, Yellow Loosestrife *Lysimachia vulgaris* and Soapwort *Saponaria officinalis*. For the latter two plants this represented their only site in the parish.

So, in conclusion, this study has given me a whole new perspective on the natural history of the parish and confirmed that even the most unpromising landscapes can have islands of ecologically richer habitats. But above all it has been a real pleasure to focus on a new area of interest with all the challenges and rewards that involves.

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Yorkshire Sawflies 2021: Recorder's Report

Ian Andrews 24 Barmby Road, Pocklington YO42 2DP

Email: syrphus@hotmail.co.uk

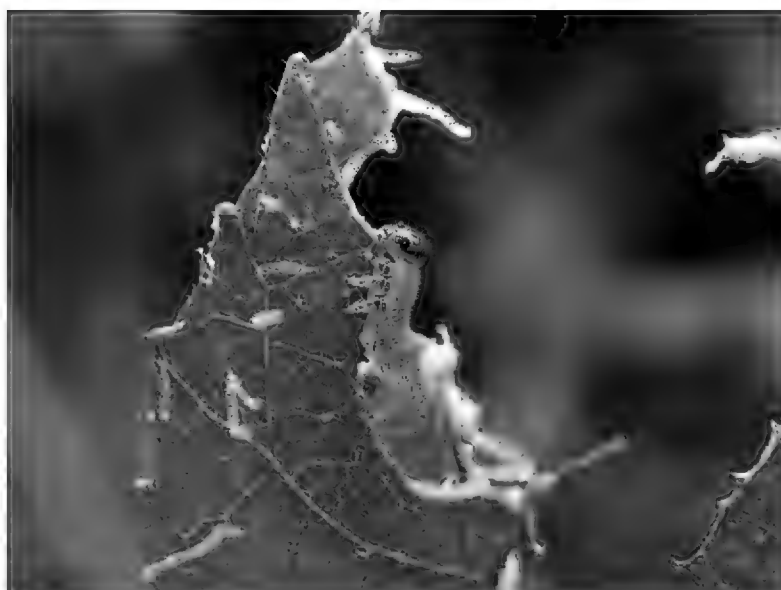
2021 was largely a dreadful season for sawflies...the spring months being either too wet or too hot and with very little of the warm, still days sawflies enjoy. My best days for numbers were early, in the first two weeks of April, when there was a strong emergence of *Dolerus* in particular along the floodplain meadows south of Kexby in VC61, including the uncommon

Dolerus stygius (see photo p153) and *Dolerus brevicornis*, the latter a new county record. On a couple of days there were thousands of black *Dolerus* flying together, low over various grasses and *Carex* beds alongside the river...quite a sight.

Earlier still, on the last day of March, another species new for Yorkshire, *Claremontia uncta*, was swept beside a path at North Cave Wetlands; a species associated with Meadowsweet, like so many sawflies.

May saw a few better days and on one particularly warm day alongside the Pocklington Canal a number of good records were made, including a male nematine swept from *Salix* which proved on the basis of its distinctive penis valve to be *Euura respondens*, a species new to the UK.

Another species new to Yorkshire, found at Cali Heath YWT reserve, was *Euura fagi*, a nematine whose larvae feed on beech and which surprisingly had not been found in the county before. It was a fortuitous find, as there is only the one beech tree at the site and it seemed unlikely therefore that the species would be present...yet the first time I looked, there was a female right in front of me on a low branch! A later visit turned up a larva in the very same spot. I would be surprised if the species were not widespread, so checking low leaves of beech for the green larva in other VCs would be worthwhile.



Top left: *Euura fagi*, an external feeding sawfly on Beech, Cali Heath YWT VC61.

Top right: *Stauronematus platycerus* larva feeding within its saliva palisade - wisps of saliva are visible. Cali Heath YWT VC61.

Left: *Dolerus stygius* - a rare sawfly associated with sedges, Newton Mask SSSI VC61

My favourite sawfly discovery of the year was *Caliroa cinxia*, whose slug-like larvae were found grazing a few oak leaves at Allerthorpe Common in September. The larvae are similar to the more common *C. annulipes*, but far brighter, with deep yellow mucous on the head end....quite stunning! (See front cover.)

Probably the most interesting record for 2021 was Richard Shillaker's excellent find of *Aproceros leucopoda*, the Elm Zig-zag Sawfly. Not recorded in the UK before 2017 (though likely here for longer), it has been spreading very quickly as it is multi-generational and seems to disperse widely. It was only a matter of time before it arrived, and it was not surprising to see it appear first at Brantingham in VC61, just across the Humber in an area where many invertebrates seem to enter the county as they push north. Everyone should be checking their Elms to look for the distinctive zig-zag larval feeding excisions this summer, and it would not be surprising to see new VC records coming soon. At the moment, Richard's records are the most northerly in the UK.

A request on the YNU facebook page for others to look at Aspen for the larvae of *Stauronematus platycerus* led to Allan Rodda and Jackie Holder finding a first record for VC62, and just the 7th record for the county, of what is a very interesting species; the larva creates a palisade of white salival spikes around itself as it feeds, presumably for protection (photo, p153). It is worth looking for, especially low down on young Aspen, and as the palisade remains after the larva has moved on, it can still be recorded without the beast itself.

A belated new county record from 29 May 2020 was that of *Harpiphorus lepidus*, a most attractive little yellow sawfly associated with oak, found among Roy Crossley's specimens, and yet another quality invertebrate for the small Cali Heath YWT reserve.

I am very keen to have more people record sawflies and send records in to me. They are far less scary a prospect these days and even the tricky nematines are getting much easier, with so much work being done on the continent and new keys becoming available. I do harvest records from iRecord and am happy to have excel spreadsheets or just individual records sent to my e-mail at the top of this report. I am particularly interested in seeing specimens and would encourage people to send any through to me for verification.

Over the course of 2021, 541 records were added to the county database, including 21 new VC records, of which 7 were also new to Yorkshire and 1 new to the UK.

New County and Vice County records confirmed in 2021

‡ New county record

*New vice county record

***Ametastegia perla* Klug, 1818**

Larvae feed on *Polygonum persicaria*, *Salix*...etc. The only fully documented county record.

*VC61: Allerthorpe Common 19.07.21 I.J.Andrews

***Aproceros leucopoda* Takeuchi, 1939**

An Asiatic species found in the UK for the first time in 2017, but spreading quickly. Larvae excise zig-zag channels through the leaves of *Ulmus* spp.

‡ VC61: Brantingham 29.09.21 R.Shillaker New to Yorkshire

Arge ciliaris Linnaeus, 1767

Larvae feed on *Filipendula ulmaria*.

*VC61: Newton Mask SSSI 16.07.2020 R. Crossley

Caliroa cerasi Linnaeus, 1758

The slug-like larvae graze the leaves of trees and shrubs, mainly *Prunus* spp. and *Pyrus* spp.

*VC65: Greta Bridge 20.09.21 C.Fletcher

Caliroa cinxia Klug, 1816 (see front cover and p153)

Larvae graze the leaves of *Quercus* spp.

‡ VC61: Allerthorpe Common 12.09.21 I.J.Andrews New to Yorkshire

Claremontia uncta Klug, 1816

Larvae feed on *Filipendula ulmaria*.

‡ VC61: North Cave Wetlands 31.03.21 I.J.Andrews New to Yorkshire

Dolerus brevicornis Zaddach, 1859

Larvae feed on various sedges and grasses

‡ VC61: Newton Mask SSSI 17.04.21 I.J.Andrews New to Yorkshire

Empria tridens Konow, 1896

Larvae feed on *Geum* sp., *Rubus idaeus*...et al.

*VC61: East Cottingwith 10-19.05.2019 J.Small

Endelomyia aethiops Gmelin, 1790

Larvae skeletonise the leaves of *Rosa* spp.

*VC65: Nosterfield NR 01.07.21 C.Fletcher

Eutomostethus nigrans Konow, 1887

Larvae feed on various grasses

*VC64: Askham Bog 17.07.21 A.Millard

Euura fagi Zaddach, 1876 (see photo p153.)

Larvae feed externally on *Fagus sylvatica*

‡ VC61: Cali Heath YWT 03.06.21 I.J.Andrews. New to Yorkshire

Euura humeralis Serville, 1823

Larvae feed externally on *Salix* spp.

*VC61: North Cave Wetlands 02.04.21 I.J.Andrews

Euura respondens Förster, 1854

Larvae feed on long-leaved *Salix* spp. and *Populus*. New to Yorkshire and the UK

‡ VC61: White Carr 05.05.21 I.J.Andrews

Euura viduata Zetterstedt, 1838

Larvae feed externally on various broad-leaved *Salix*.

*VC61: New Covert and Park Wood 04.04.21 I.J.Andrews

Harpiphorus lepidus Klug, 1818

Larvae graze the upper surface of *Quercus* leaves

‡ VC61: Cali Heath YWT 06.03.20 R.Crossley New to Yorkshire

Macrophya albipuncta Fallén, 1808

Larvae feed on *Geranium* spp.

*VC61: Newton Mask SSSI 15.05.21 R.Crossley

Macrophya punctumalbum Linnaeus, 1767

Larvae feed on *Fraxinus excelsior* and *Ligustrum vulgare*

*VC62: Wykeham Lakes 27.05.21 D. Lombard

Pristiphora testacea Jurine, 1807

The larvae feed socially around the leaf-edge of *Betula* spp.

*VC62: Salton 30.11.21 S. Newton

Stauronematus platycerus Hartig, 1840 (see photo p 153.))

Larvae feed on *Populus tremula* and other *Populus* spp. The larva surrounds itself with a palisade of dried, white saliva.

*VC61: Cali Heath 07.08.21 I.J.Andrews

*VC62: Wykeham Causeway 05.09.2021 J. Holder & A.Rodda

Strongylogaster mixta Klug, 1817

Larvae feed on *Athyrium filix-femina* and other ferns.

*VC61: Allerthorpe Common 09.05.21 I.J.Andrews

Errata

For the production of the April 2022 edition of *The Naturalist* our usual proof-reading procedure was not possible and this contributed to significant errors in two articles, for which the Editorial Board offers its sincere apologies.

1) Hoyle et al., 2022 (Changes in *Sphagnum* communities on Ilkley Moor. *The Naturalist*. 147: 21-27.).

Nomenclatural errors requiring correction are: *S. recurvum* should be qualified as *S. recurvum* s.lat. (as understood at the time of Dalby's paper, it is now an aggregate taxon with three British species, and the true *S. recurvum* does not occur here); *S. robustum* is now *S. russowii*; *S. plumulosum* is now *S. subnitens*; *S. capillaceum* is now *S. capillifolium*; *S. magellanicum* should be qualified as *S. magellanicum* s.lat. (it has recently been split into three taxa, and the true *S. magellanicum* does not occur in Europe).

Typographical errors are: *S. squarriosum* should be *S. squarrosus*; *S. recurvium* should be *S. recurvum* s.lat.; *S. fimbriatum* should be *S. fimbriatum*; *S. subsecundrum* should be *S. subsecundum*; *S. squarossum* should be *S. squarrosus*; *S. tenellium* should be *S. tenellum*; *S. finbartum* should be *S. fimbriatum*; *S. robustum* should be *S. robustum* (= *S. russowii*). The reference listed as Dalby (1972) should be Dalby (1973) in issue number 927 of *The Naturalist*, pp 133-135.

We are grateful to Tom Blockeel for pointing out these errors.

2) Goulder, R. (2022). Aquatic plants in the canal known as Beverley Beck: effects of dredging and installation of pre-planted coir rolls in 2003-2004 and the aftermath to 2020. *The Naturalist* 147: 36-53.

Text: p. 38, line 12, delete 'Figure 1'; p. 41, line 16, delete 'Figure 3'; p. 42, line 13, replace 'Figure 4' with 'Figure 2'; p. 42, line 38, replace 'Figure 5' with 'Figure 3'.

Tables: Table 1, p. 47, *Myriophyllum spicatum* should be shown as frequent in 2020; Table 2, p. 49, *Sagittaria sagittifolia* should be shown as frequent in 2020; p. 50, *Sparganium erectum* should be shown as dominant or abundant in 2015 and 2016.

Figure legends (p. 39) should read as follows:

Figure 1. (top left) Abundant submerged and floating-leaved vegetation in Beverley Beck, west of Grovehill Flyover, before dredging; seen here looking westward towards Beck Head, August 2003.

Figure 2. (top right) East of the flyover, emergent marginal vegetation and Yellow Water-lily survived dredging; Reed Sweet-grass is in the left foreground, the emergent vegetation on the far (north) side has arisen from pre-planted coir rolls, August 2018.

Figure 3. (bottom left) Marginal vegetation developed from pre-planted coir rolls along c.50m of the south side of the beck, immediately west of the flyover; Greater Tussock-sedge and Purple-loosestrife are conspicuous, August 2016.

Figure 4. (bottom right) Luxuriant Greater Tussock-sedge, colonising vigorously from pre-planted coir rolls, east of the flyover, on the north bank, looking east towards the boat yard; the canal-side path is a popular amenity, August 2014.

Book Review

The Coleoptera (Beetles) of the Winterset area by Michael Denton. Published by Winterset Wildlife Group.

Copies are available for £10 (includes postage) from the author michael@atheta.plus.com.

Please send the cheque, made payable to Winterset Wildlife Group, to Mike Denton, 77 Hawthorne Terrace, Crosland Moor, Huddersfield HD4 5RP

Those of us who serve the Union as Recorders are in a privileged position as the records that come to our notice provide an overview of the changing fortunes of the wildlife we study. We can share that information with others formally in the pages of *The Naturalist* and the YNU website and informally at meetings and in individual correspondence. Michael has already shared his knowledge in books dealing with *The Beetles of Spurn Peninsula* and *A Natural History of Blackmoorfoot Reservoir, Huddersfield* and his latest one deals with a part of Wakefield popular with naturalists.

A map inside the front cover shows the features of the area covered by the book and there is a reprint of 'The History of Winterset' by Steven Denny, originally in his 2003 book on the birds of the area. This sets the scene for the records which follow and Michael is to be congratulated on making this available. There are colour photographs of beetles by Colin Rew and Paul Holmes on the front and back covers and on pages 138-149, though they are not referenced in the text.

The Species List occupies pages 17-200 but is much more than a list. For each family there is a summary of the numbers of species in each status category and the individual entries are packed with information in a standard format – body length and sometimes distinctive features, habitat requirements and status in Britain and in Yorkshire, followed by locality records for all but the ubiquitous beetles.

There are a few points in the accounts that I would have done differently. There is a tendency to repeat bracketed terms and phrases - a single mention would have been quite adequate e.g. as in "Barnsley Canal (exact location unknown)" and "aphids (Homoptera)". Whenever plants

are mentioned as food or habitats their scientific names (family, generic or specific) are given; once should be enough.

A major benefit of this book is that it is published in association with the wildlife group that studies this area and hopefully more of its members will notice beetles on their visits and take an interest in them (and other insects) on their patch. The wealth of supporting information that Michael has gathered together will be useful for naturalists in other areas and save them a lot of labour in interpreting their own records.

WAE

Maggots go 'Gentle' into the archives ... part 2

Colin A. Howes 7 Aldcliffe Crescent, Balby, Doncaster DN4 9DS

1] In September 1965 Mike Clegg and his colleague Chris Devlin, both naturalists at Doncaster Museum, had a week-end of bird-watching at Spurn where Barry Spence the Observatory warden gave them a strand-line Gannet *Morus bassana* corpse for the Museum. On the train back from Hull to Doncaster they found seats in a crowded compartment and stowed their kit plus wrapped up Gannet on the luggage rack above the occupied seats. During the journey the motion of the carriage began to unravel the bundle containing the evidently fly-blown Gannet and they became aware of a slow rain of wriggling maggots pinging off the brim of the trilby worn by the rather smart gent seated beneath. Fortunately their fellow passengers didn't notice or were too polite to mention the maggots. The Gannet, a male and dated 13.9.1965, is now preserved in the bird skin collection (Acc. No. ZZ1090) and its pelvic girdle in the skeletal collection (Acc. No. ZZ993) at Doncaster Museum.

2] In June 1976 a lethargic adult Common Toad *Bufo bufo* was noticed in the back garden in Lawn Avenue central Doncaster (SE5803). After remaining apparently alive but motionless for several days it was brought as an enquiry to the natural history lab at Doncaster Museum & Art Gallery where it was kept over a very hot weekend. The south-facing lab generated tropical temperatures during sunny days and that weekend was a scorcher, evidently accelerating what turned out to be larval activity of a fly-strike, possibly *Lucilia bufonivora*. On entering the lab on Monday morning, taxidermists Chris Devlin and Albert White encountered the gory spectre of a ruptured toad with trails of black gunge radiating in all directions from the wound. The sinister calligraphy of inky tell-tale trails led to the dank refuges of a soap dish, floor cloths, bottles of bleach, detergent and the bristles of a scrubbing brush by the sink. Trails also ascended to the baffles of the Venetian Blinds and descended to the abode of wellingtons, buckets and other workshop paraphernalia beneath the work surface.

In clearing up the mess and debris, numbers of fly pupae were disposed of but after another week in this stifling room, the more expertly concealed pupae emerged as an angry cloud of 'green-bottles'. Although the Museum collection contains one specimen of *Lucilia bufonivora*, collected by Peter Skidmore in Sprotbrough in 1965, it seems that none of the maggots, pupae or adults of the great Toad Nostril-fly incident were retained for posterity.

YNU Notices

YNU Annual General Meeting

DATE: Saturday 15 October 2022

LOCATION: The University of Hull, Brynmor Jones Library, Room BRYN-TR3. Directions for driving to the campus are available at: <https://www.hull.ac.uk/editor-assets/images/open-days/map-approach-roads.jpg>.

Parking is free in any bay on the University campus over the weekend. If you are travelling by train there are buses (Nos. 4 & 5) about every 5-10 minutes from the Bus Interchange, next to Hull Paragon Station, to Taylor Court, Cranbrook Avenue, adjacent to the University campus. The journey takes about 15 minutes. The library is the tallest building of the University and centrally located. A map of the campus is available at <https://www.hull.ac.uk/editor-assets/docs/campus-map.pdf>.

The Library Café is open on Saturdays, 9:00am to 6:00pm and can provide light lunches.

TIMES: From 11.00 am there will be an opportunity to meet up with other members of the YNU and to view a video presentation of the activities of the Hull Natural History Society, who are hosting the AGM. Formal proceedings will start at 1.30 pm, followed by the presidential address by Barry Warrington. The meeting will finish at approximately 4.00 pm.

We encourage as many members as possible to attend but are also hoping to provide access to the AGM via Zoom. To book for attendance in person or via Zoom visit <https://www.eventbrite.co.uk/e/ynu-agm-day-2022-tickets-386828192537>.

Booking will be available from 1 September 2022.

For all YNU members with Gmail addresses

Google mail has very recently strengthened its spam filters such that email from the YNU is likely to have been classified as spam and delivered to your spam folder. So, if you have a gmail address and expect to receive emails from the YNU, please check your spam folder regularly and mark any YNU emails there as 'not spam'. As well as allowing YNU emails into your inbox this should also help 'train' Google mail generally to not treat YNU emails as spam. Please pass this message on to any other YNU members with gmail addresses that you know.

YNU Calendar

Please check the Events page of the YNU website at [https://www.ynu.org.uk/news-events/events/monthcalendar/2022/8/-](https://www.ynu.org.uk/news-events/events/monthcalendar/2022/8/) for further information and updates.

- Sep 17 YNU Executive Committee Meeting. Meet near Nostell Priory, 10.30-12.30.
- Oct 8 Bryological Section, Ogden Clough and Ovenden Moor, VC63. Meet at 10:00 am in the public car park at Ogden Reservoir, SE06593093. Contact: Tom Blockeel 0114 2366861
- 15 YNU AGM in the Brynmor Jones Library, University of Hull. See p158 for further details.
- 22 Entomological Section AGM at Potteric Carr (t.b.c.). For details email sanda20211@outlook.com

Evening Themed Zoom Meetings

Booking to attend these will be via the website and/or emails sent to members and representatives of affiliated societies. It is hoped to arrange further themed Zoom meetings early in 2023 and anyone interested in leading one should contact a member of the Executive.

Sessions start at 7.30pm.

Oct 6 Yorkshire's Increasing Dragonfly Fauna. Keith Gittens.

Nov 3 Rewilding in Yorkshire - the work of the Yorkshire Rewilding Network. Jeff Davitt.

Late Nov/early Dec t.b.c. **The new Yorkshire Moths Website.** Aidan Smith.

In addition to these visit <http://bit.ly/ynu-zoom-chat> for details of the YNU Friday evening Chat sessions.



Yorkshire Naturalists' Union

c/o NEYEDC, 10a Minster Gates, York YO1 7HL
Tel: 01904 641631 Email: membership@ynu.org.uk
Website: www.ynu.org.uk
Registered Charity No. 224018

The Naturalist

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Notice to contributors

Contributors should indicate whether they wish their manuscripts to be subjected to anonymous peer review. All other manuscripts will be reviewed by the Editorial Board who at their discretion may send them to third parties for comment and advice.

Original articles should be submitted electronically as an MS Word document to Dr A. Millard at:
editor@ynu.org.uk

Please look at a recent issue of the journal for a general idea of how to present your article. Also see *The Naturalist* - *Guidance for authors* at www.ynu.org.uk/naturalist and please **avoid** the following:

- using any paragraph formatting and line spacings other than single.
- using tabs to tabulate information (please use MS Word table format).
- inserting any figures, graphs or plates into the text; indicate their proposed locations in the text and send them as separate files.

Good quality, high resolution images are very welcome and should be sent as .jpg files, with a separate MS Word file containing the caption and name of the person to whom the image should be attributed.

If electronic submission is not possible, contributions should be sent to Dr. A. Millard, Woodland Villas, 86 Bachelor Lane, Horsforth, Leeds LS18 5NF (Tel. 0113 258 2482).

Contributors should ensure the accuracy of reference citations. The Editorial Board and Council accept no responsibility for opinions expressed by contributors.

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